clarion

Owner's manual & Installation manual
Mode d'emploi et manuel d'installation
Bedienungs- & Installationsanleitung
Manuale d'Istruzioni e d'Installazione
Gebruiksaanwijzing en installatie-aanwijzingen
Manual de instrucciones y Manual de instalación
Bruksanvisning- och installations
Manual do proprietário e manual de instalação

VRX847OR

TV/RDS-EON/FM-MPX/MW/LW RADIO
WITH MD/CD CHANGER CONTROL

•

TÉLÉVISEUR/RADIO RDS-EON/FM-MPX/PO/GO
AVEC CÔNTROLEUR DE CHANGEUR DE MD/CD

•

TV/RDS-EON/UKW-MPX/MW/LW-RADIO
MIT MD-/CD-WECHSLER-STEUERUNG

•

TELEVISORE/RADIO RDS-EON/FM-MPX/OM/OL
CON CONTROLLO CAMBIA MD/CD

•

TV/RDS-EON/FM-MPX/MW/LW RADIO MET
BEDIENINGSEENHEID VOOR MD/CD-WISSELAAR

•

TV/RADIO RDS-EON/FM-MPX/MW/LW CON
CONTROL DE CAMBIADOR DE MD/CD

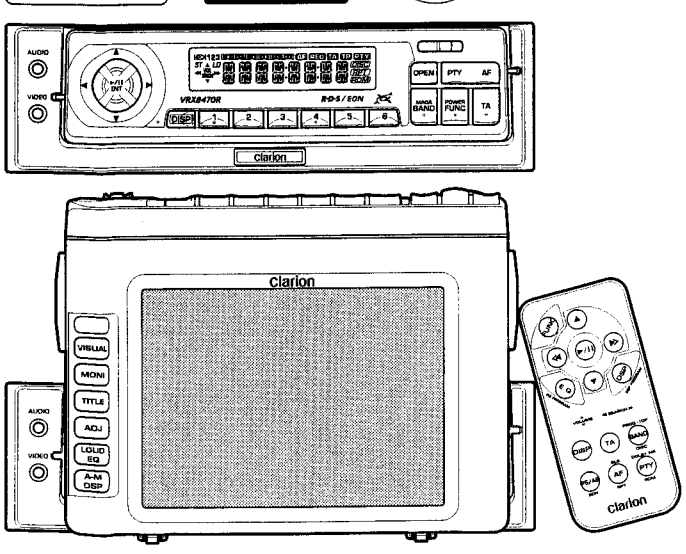
•

KOMBINERAD BIL-TV OCH RDS-EON/FM-MPX/
MV/LV-RADIO MED MD/CD-VÄXLARKONTROLL

•

TV/AUTO-RÁDIO RDS-EON/FM-MPX/OM/OL COM
CONTROLO DE CAMBIADOR DE MDs/CDs

ALPHA
R·D·S
EON
C-BUS
ISO CONNECTOR



Thank you for purchasing the **Clarion VRX8470R**.

* This Owner's manual & Installation manual are for the VRX8470R.
* Please read this owner's manual & installation manual in its entirety before operating this equipment.
* After reading this manual, be sure to keep it in a handy place (e.g., glove compartment).
* Check the contents of the enclosed warranty card and keep it carefully with this manual.
* This manual includes the operating procedures of the CD changer and MD changer that are connected via the C-BUS cable, of the Digital Sound Processor (DSP) and of the Equalizer (EQ). The CD changer, MD changer, DSP or Equalizer has its own owner's manual & installation manual, but no explanations for operating it are described.

English

Owner's manual

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English

1. PRECAUTIONS

⚠ WARNING

For your safety, the driver should not watch the TV or operate the controls while driving. Please note that watching and operating the TV while driving are prohibited by law in some countries. Also, while driving, keep the volume to a level at which external sounds can be heard.

1. When the inside of the car is very cold and the player is used soon after switching on the heater, moisture may form on the disc (CD/MD) or the optical parts of the player and proper playback may not be possible. If moisture forms on the disc (CD/MD), wipe it off with a soft cloth. If moisture forms on the optical parts of the player, do not use the player for about one hour and the condensation will disappear naturally to allow normal operation.
2. Driving on extremely bumpy roads which cause severe vibration may cause the sound to skip.
3. This unit uses a precision mechanism. Even in the event that trouble arises, never open the case, disassemble the unit, or lubricate the rotating parts.
4. TV broadcast reception
   When receiving TV broadcasts, the strength of the signals changes since the car is moving, so in some cases it may not be possible to receive clear pictures.
   - TV signals are strongly linear, so reception is affected by buildings, mountains, and other obstacles.
   - Such external factors as electric train lines, high voltage lines, and signal devices may disturb the picture or cause noise.

   * If the reception is poor, switch to a station with good reception.

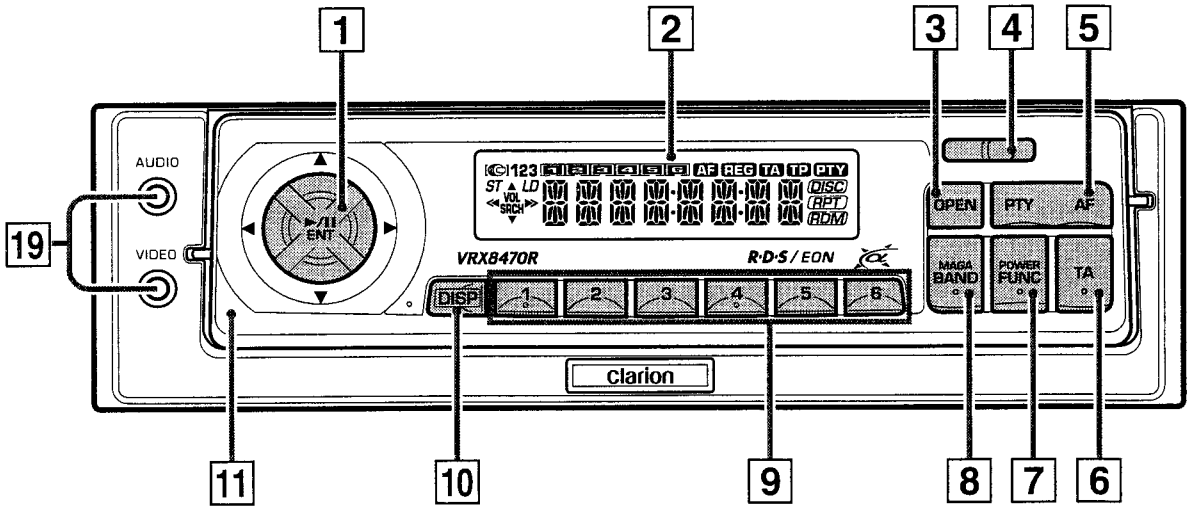
CHANGES OR MODIFICATIONS TO THIS PRODUCT NOT APPROVED BY THE MANUFACTURER WILL VOID THE WARRANTY.

Be sure to unfold and read the next page. / Veuillez déplier et vous référer à la page suivante.
Bitte ausbreiten und die nächste Seite lesen. / Assicurarsi di aprire e leggere la pagina successiva.
Volgende pagina uitvouwen en doorlezen a.u.b. / Cerciórese de desplegar y de leer la página siguiente.
Glöm inte att vika ut och läsa nästa sida. / Não deixe de abrir e ler a próxima página.

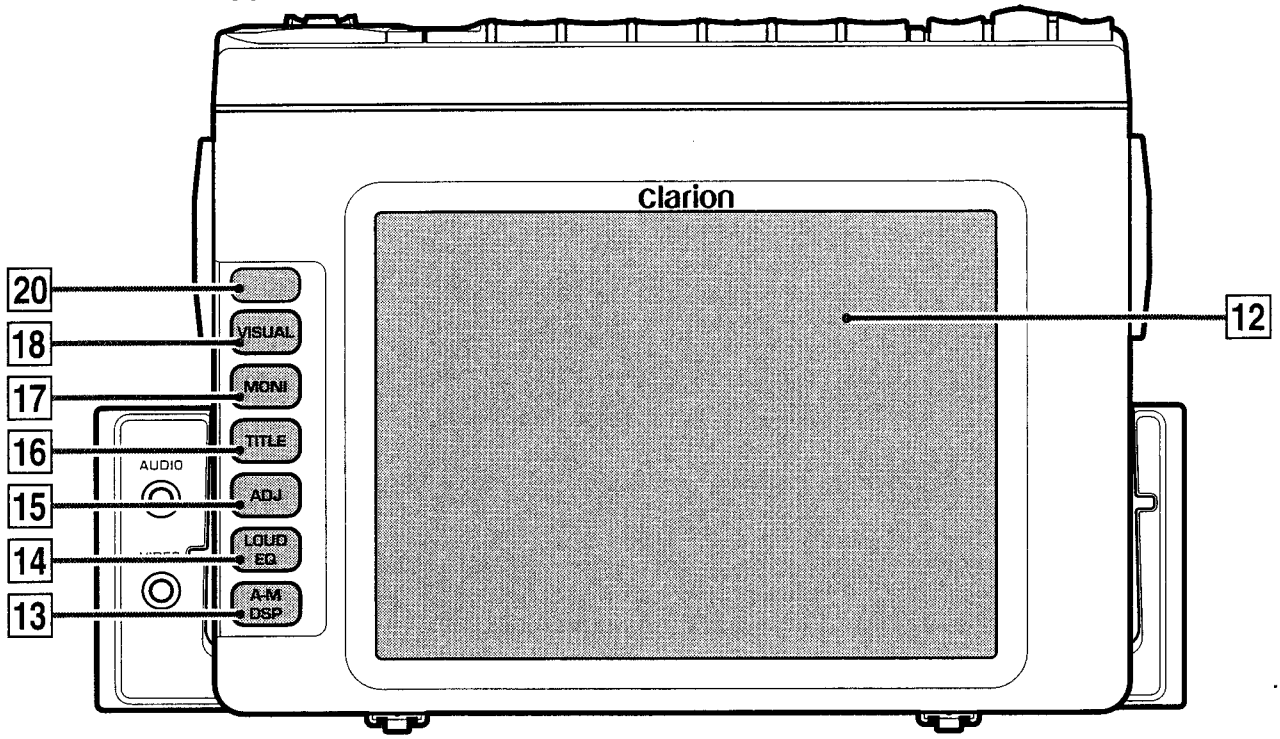
2. CONTROLS / REGELAARS / / REGLER / / KONTROLLER /

Source unit / Appareil pilote / Hauptgerät / Unità centrale Brontoestel / Unidad fuente / Huvudenhet / Unidade fonte

***With the Display closed** / Lorsque l'afficheur est fermé / **Mit geschlossenem Display** / Con display chiuso / **Met het display gesloten** / Con el visualizador cerrado / **Med bildskärmen stängd** / Com o écran fechado*



***With the Display opened** / Lorsque l'afficheur est ouvert / **Mit geöffnetem Display** / Con display aperto / **Met het display geopend** / Con el visualizador abierto / **Med bildskärmen öppen** / Com o écran aberto*



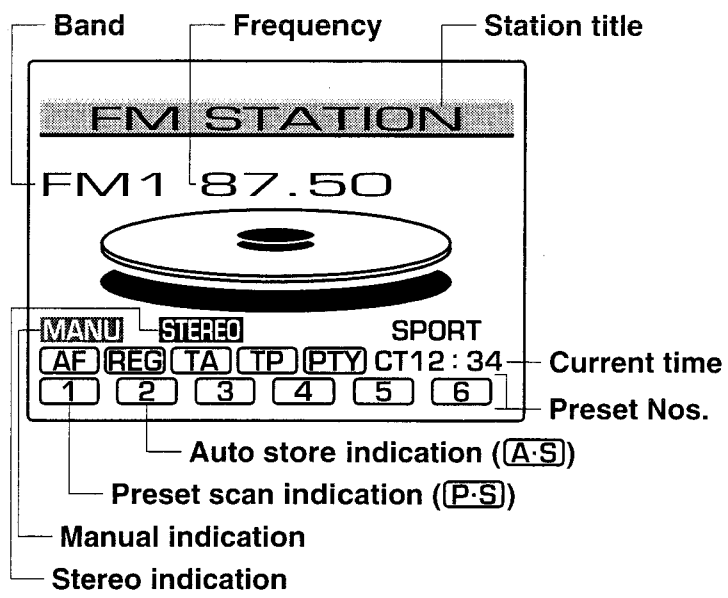
***Note**: Be sure to unfold this page and refer to the front diagrams as you read each chapter.*
***Remarque**: Veuillez déplier cette page et vous référer aux schémas quand vous lisez chaque chapitre.*
***Hinweis**: Bitte diese Seite ausfalten und beim Lesen der einzelnen Kapitel die Frontdiagramme beachten*
***Nota**: Assicurarsi di aprire questa pagina e fare riferimento a questi diagrammi quando si legge ciascun capitolo*
***Opmerking**: Vouw deze pagina uit en zie tevens de afbeeldingen van het voorpaneel tijdens het doorlezen van de volgende hoofdstukke*
***Nota**: Cuando lea los capítulos, despliegue esta página y consulte los diagramas de la parte frontal.*
***Observera**: Vik ut denna sida för att kunna se figurerna över bilstereons framsida medan du läser de olika kapitle*
***Nota**: Lembre-se de abrir esta página e consultar os diagramas frontais durante a leitura de cada capítulo*

English
Français
Deutsch
Italiano
Nederlands
Español
Svenska
Português

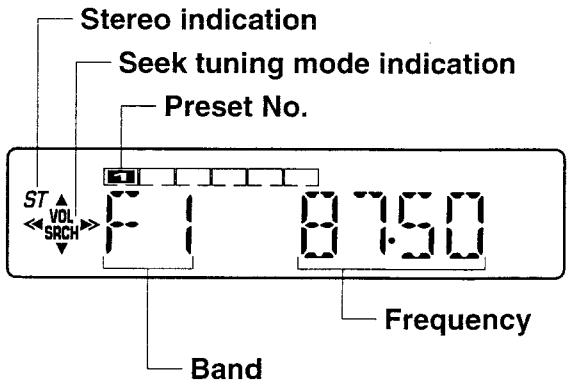
3. MODE DISPLAY

<Radio Mode Display>

Display



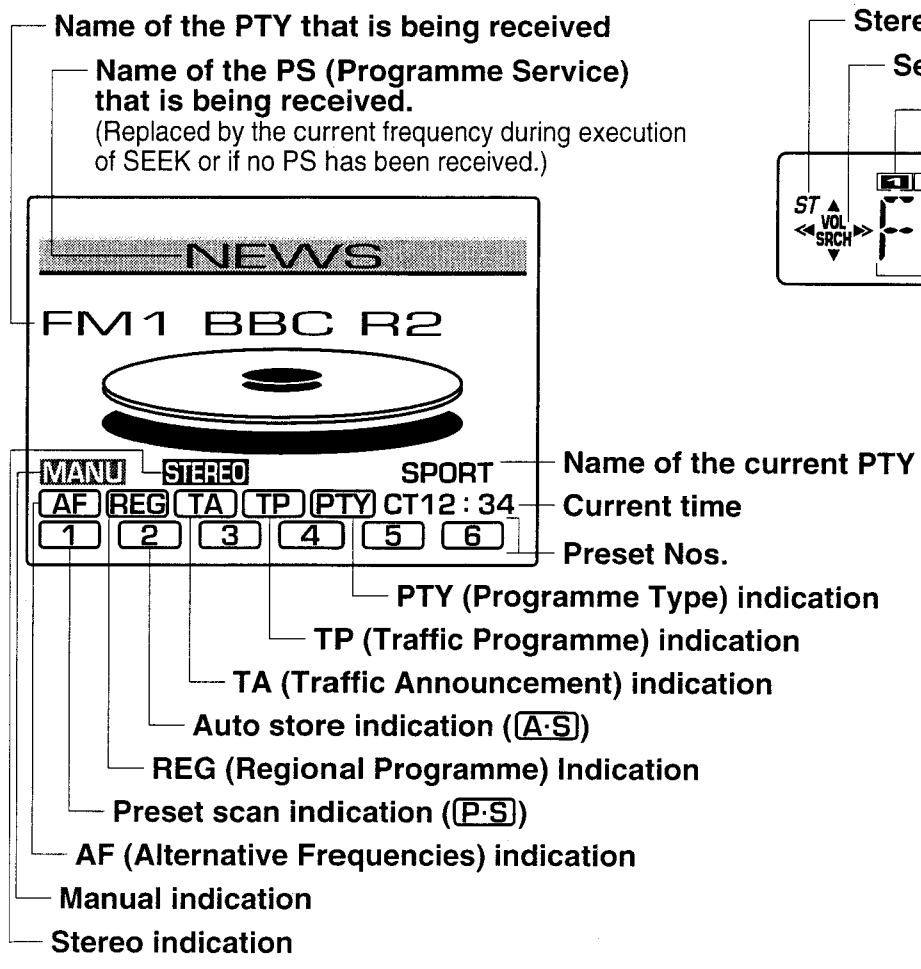
Information Panel



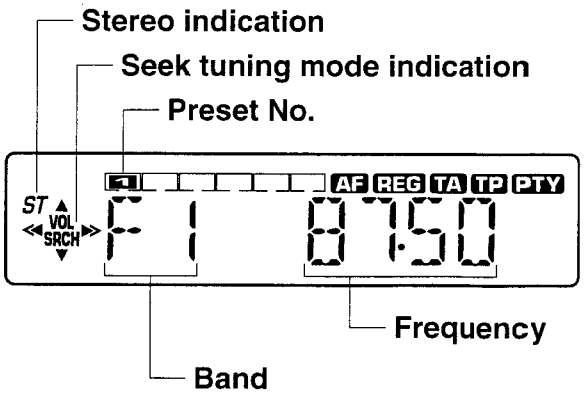
* TP will not light until an actually selected PTY is received.

<RDS Mode Display>

Display


Name of the PTY that is being received
Name of the PS (Programme Service) that is being received.
(Replaced by the current frequency during execution of SEEK or if no PS has been received.)
NEWS
FM1 BBC R2
MANU
STEREO
SPORT
AF REG TA TP PTY CT12 : 34
1 2 3 4 5 6
Name of the current PTY
Current time
Preset Nos.
PTY (Programme Type) indication
TP (Traffic Programme) indication
TA (Traffic Announcement) indication
Auto store indication (A·S)
REG (Regional Programme) Indication
Preset scan indication (P·S)
AF (Alternative Frequencies) indication
Manual indication
Stereo indication

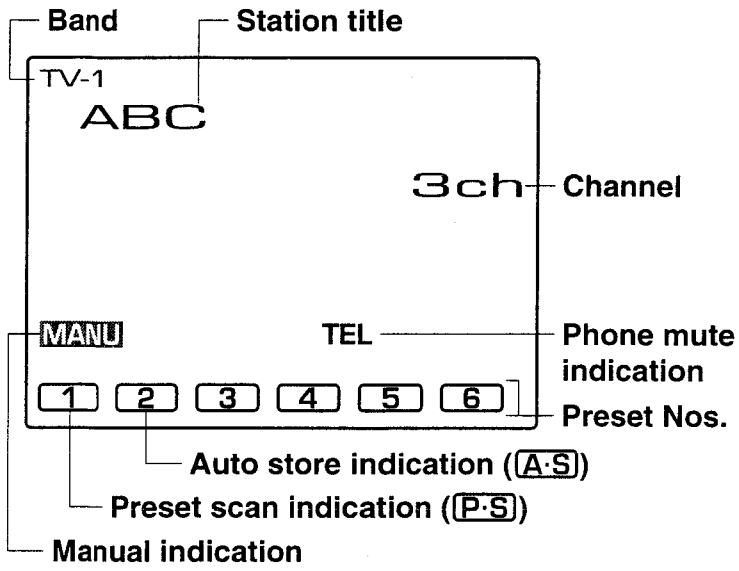
Information Panel



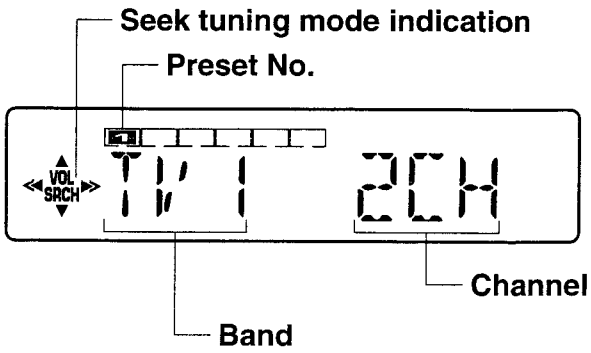
* TP will not light until an actually selected PTY is received.

<TV Mode Display>

Display



Information Panel

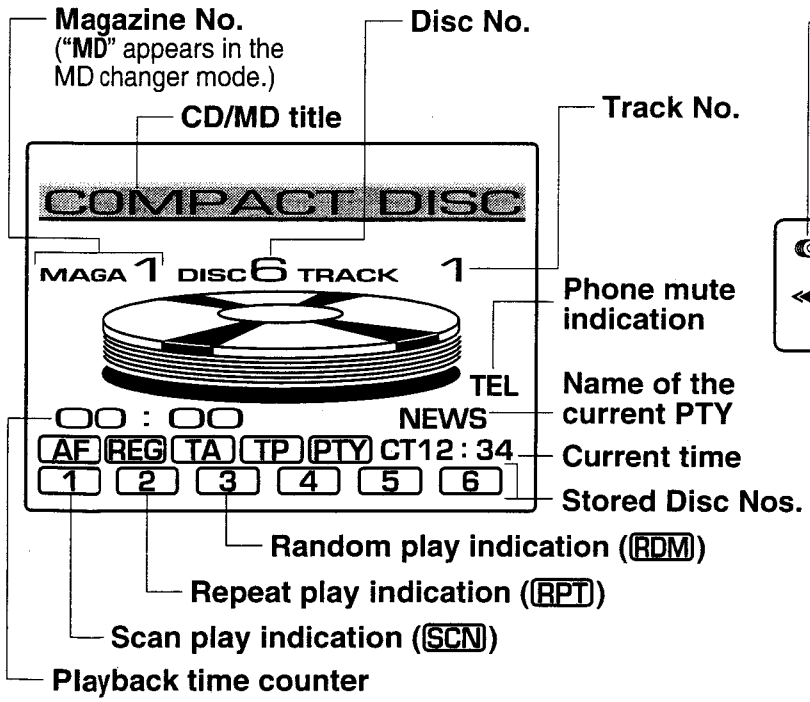


English

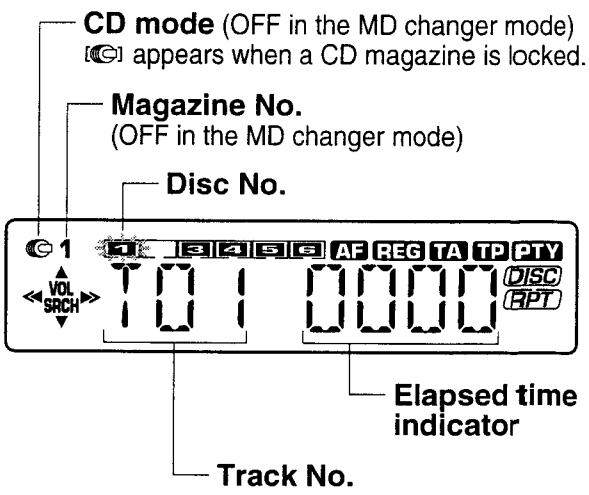
* The display turns off automatically about 5 seconds after each operation, except when driving a car, or in preset scan, auto store, or seek tuning mode.

<CD Changer or MD Changer Mode Display>

Display

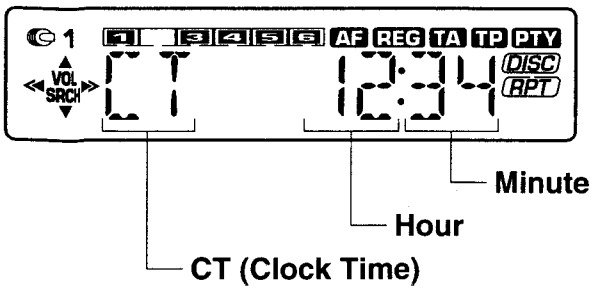


Information Panel



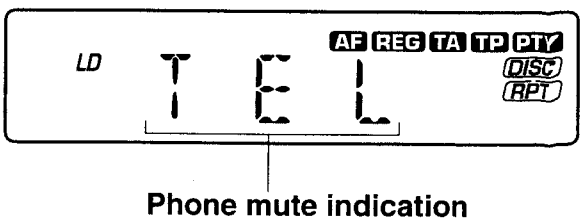
<Clock Time (CT) Display>

In the CD/MD changer mode:



<Phone Mute Display>

In all modes:

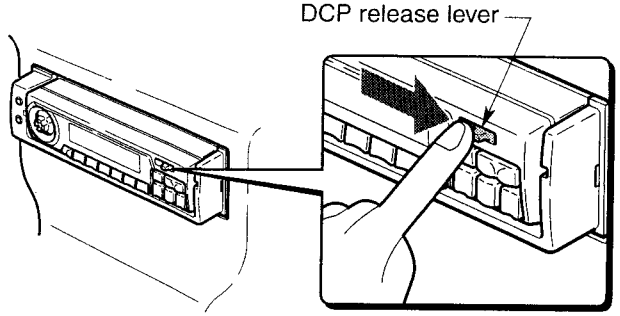


4. DCP (Detachable Control Panel)

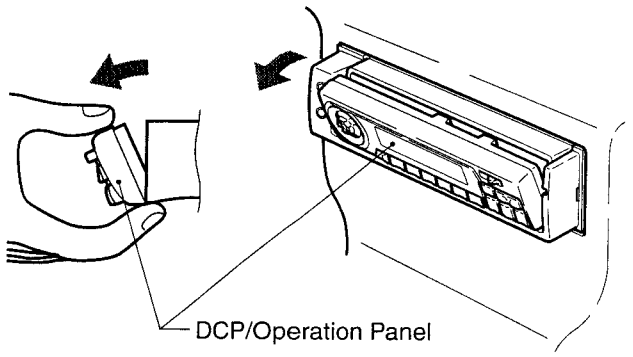
The control panel can be detached to prevent theft. When detaching the control panel, store it in the DCP (Detachable Control Panel) case to prevent scratches.
We recommend taking the DCP with you when leaving the car.

Removing the DCP

1) Turn the power off.
2) Deeply push in the DCP release lever [4] to release the DCP/Operation Panel [11].

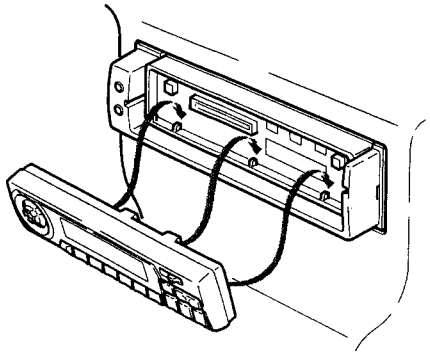


3) Pull the DCP toward you and remove it.

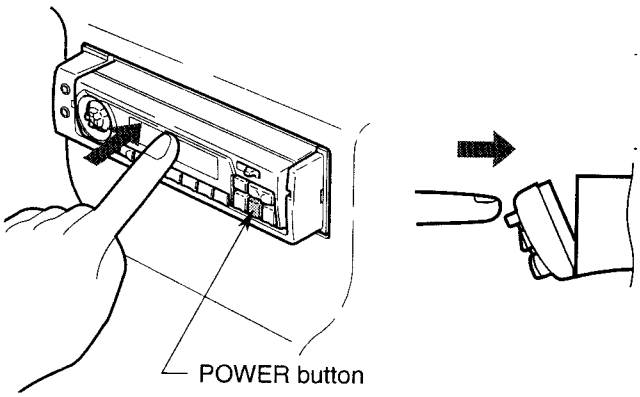


Attaching the DCP

1) Hold the DCP/Operation Panel [11] with its rear side facing the source unit and, as shown in the figure below, put the lower edge of the panel onto the corresponding edge of the source unit.



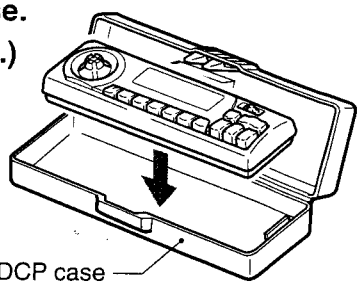
2) Lock the DCP/Operation Panel [11] at the upper centre until a click is heard.



3) Press the POWER button [7] to turn on the power.

! CAUTION

- **The DCP can easily be damaged by shocks. After removing it, be careful not to drop it or subject it to strong shocks.**
- **If the Operation Panel is kept open, the DCP may drop due to vibration of the car. This results in damage to the DCP. So close the Operation Panel or remove the DCP to store into the case. (See figure below.)**



- **The connector connecting the source unit and the DCP is an extremely important part. Be careful not to damage it by pressing on it with fingernails, screwdrivers, etc.**

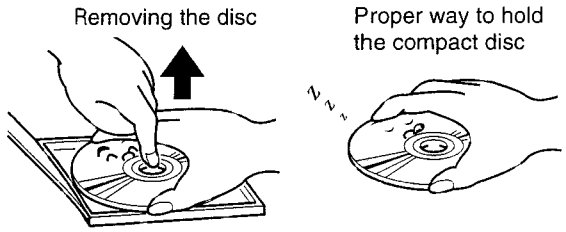
Note:

- *If the DCP is dirty, wipe off the dirt with a soft, dry cloth only.*

5. HANDLING COMPACT DISCS

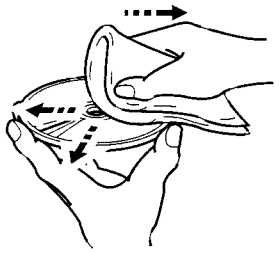
This unit has been designed specifically for playback of compact discs bearing the mark. No other discs can be played.

To remove the compact disc from its storage case, press down on the centre of the case and lift the disc out, holding it carefully by the edges.

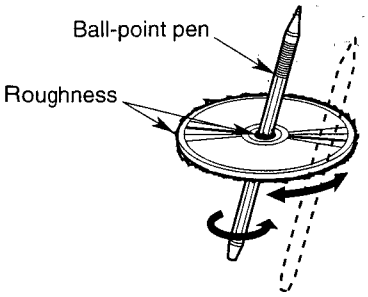


Always handle the compact disc by the edges. Never touch the surface.

To remove fingermarks and dust, use a soft cloth, and wipe in a straight line from the centre of the compact disc to the circumference.



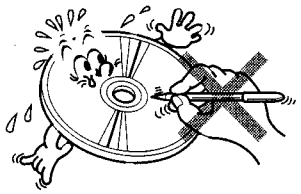
New discs may have some roughness around the edges. The set may not work or the sound may skip if such discs are used. Use a ball-point pen, etc. to remove roughness from the edge of the disc.



Note on Compact Discs

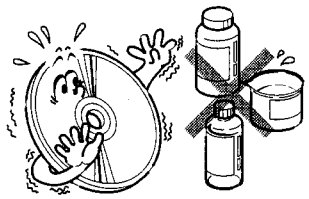
Never stick labels on the surface of the compact disc or mark the surface with a pencil or pen.

No



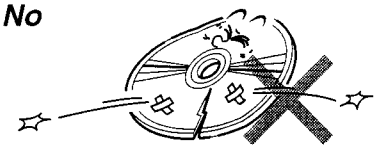
Do not use any solvents such as commercially available cleaners, anti-static spray, or thinner to clean compact discs.

No

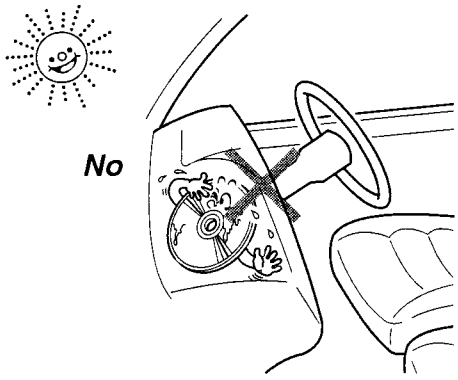


Do not use compact discs that have large scratches, are misshapen, or cracked, etc. Use of such discs will cause misoperation or damage.

No



Do not expose compact discs to direct sunlight or any heat source.



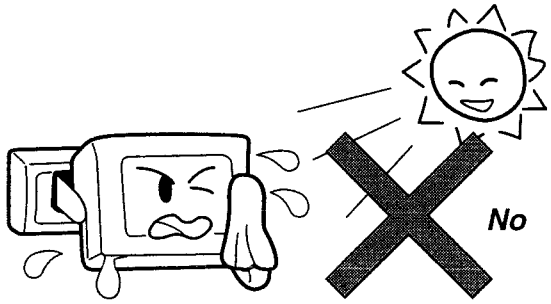
Note:

- *Do not use commercially available CD protection sheets or discs equipped with stabilizers, etc. These may get caught in the internal mechanism and damage the disc.*

6. CAUTIONS ON HANDLING

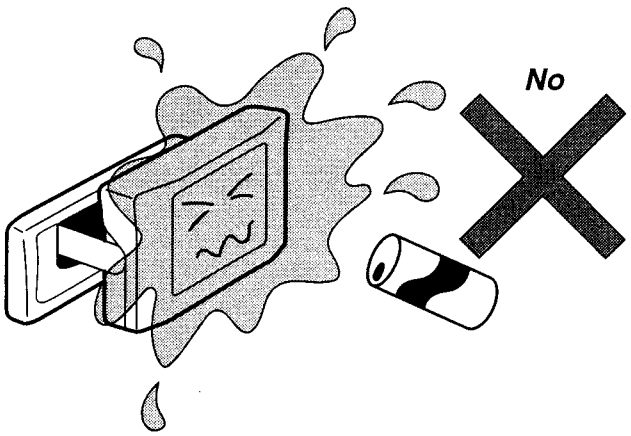
For a longer service life, be sure to read the following cautions.

- Be sure to store the LCD panel inside the source unit when parking the car outdoors for long periods of time.

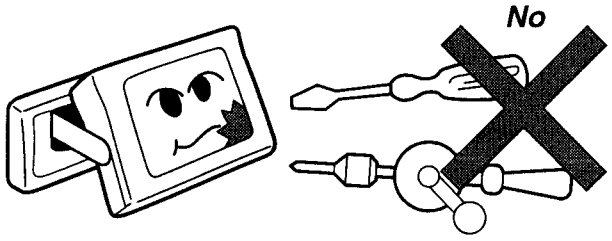


The LCD panel will operate properly in a temperature range of 0 to 60°C.

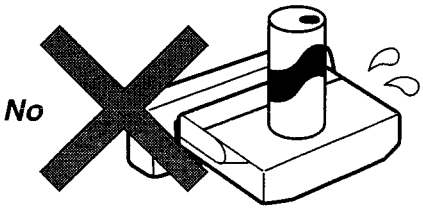
- Don't allow any liquids on the set from drinks, umbrellas etc. Doing so may damage the internal circuitry.



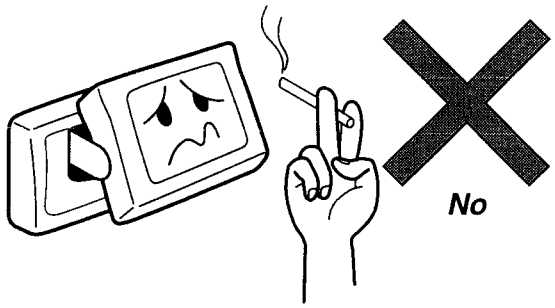
- Do not disassemble or modify the set in any way. Doing so may result in damage.



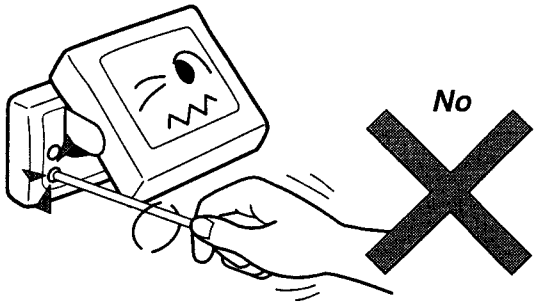
- Do not draw the LCD panel out and use it as a tray. Also, subjecting the LCD panel to shocks may result in breakage, deformation or other damage.



- Do not let cigarettes burn the display. Doing so may damage or deform the cabinet.



- Do not insert objects into the video input jack.



- If a problem should occur, have the set inspected at your store of purchase.
- Do not insert objects or poke in the space between the LCD panel and the source unit when the panel is tilted.
- Do not place anything on the display when the LCD panel is tilted.
- Do not hold on the LCD panel when adjusting the angle of the LCD panel. Doing so may damage it.
- The remote controller may not work if the remote control sensor is exposed to direct sunlight.
- The fluorescent light used behind the screen eventually wears out. It should be replaced if the picture becomes extremely dark or flickers.
- In extremely cold weather, the movement of the picture may be slow and the screen may be dark, but this is not a malfunction. The set will work normally once the temperature increases.

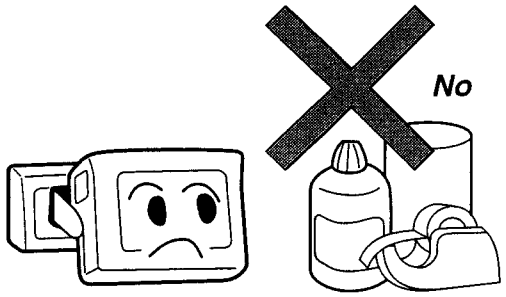
- Small black and shiny dots inside the LCD panel are normal for LCD products.
- The LCD panel may stop temporarily when it is opened or closed when the engine is stopped or when it is cold. This is not a malfunction. If this happens, repeat the operation.

Cleaning

• Cleaning the cabinet

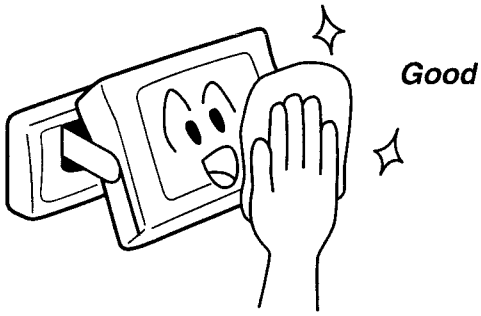
Use a soft, dry cloth and gently wipe off the dirt.
For tough dirt, apply some neutral detergent diluted in water to a soft cloth, wipe off the dirt gently, then wipe again with a dry cloth.

Do not use benzene, thinner, car cleaner, etc., as these substances may damage the cabinet or cause the paint to peel. Also, leaving rubber of plastic products in contact with the cabinet for long periods of time may cause stains.

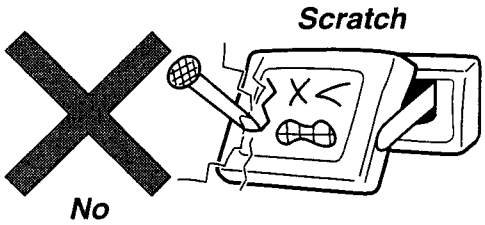


• Cleaning the LCD panel

The LCD panel tends to collect dust, so wipe it off occasionally with a soft cloth.



The surface is easily scratched, so do not rub it with hard objects.



7. BUTTON TERMINOLOGY

Note:

• Be sure to read this chapter referring to the front diagrams of chapter "2. CONTROLS" on page 5 (unfold).

Names of Buttons

1 **α-selector (ALPHA-TOUCH CONTROLLER)**
2 **Information Panel**
3 OPEN button
4 DCP release lever
5 PTY (Programme Type) button ..... [(( ))]
AF (Alternative Frequencies) button ..... [(( ))]
6 TA (Traffic Announcement) button ..... [(( ))]
7 POWER button
FUNC (Function) button
8 BAND button ..... [(( ))], [TV]
MAGA (Magazine) button ..... [ ]
9 Preset buttons (1 to 6) ..... [(( ))], [TV]
Disc No. buttons (1 to 6) ..... [ ]
10 DISP (Display) button
11 **DCP (Detachable Control Panel)/Operation Panel**
12 **Display**
13 DSP (Digital Sound Processor) button
A-M (Audio Mode) button
14 EQ (Equalizer) button
LOUD (Loudness) button
15 ADJ (Adjust) button
16 TITLE button ..... [(( ))], [TV], [ ]
17 MONI (Monitor) button ..... [TV]
18 VISUAL button (Monitor lock and Mute/Pause indicator) ..... [(( ))], [TV], [ ]
19 VTR input terminal (AUDIO, VIDEO) ..... [(( ))], [TV]
20 Receiver for remote control unit

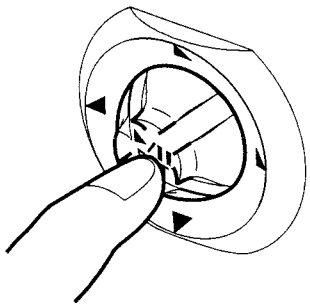
[(( ))] : In the Radio (RDS) mode
[TV] : In the TV mode
[ ] : In the CD changer or MD changer mode

α-Selector Operation (ALPHA-TOUCH CONTROLLER)

* The ALPHA-TOUCH CONTROLLER is called "**α-selector**" in this owner's manual.

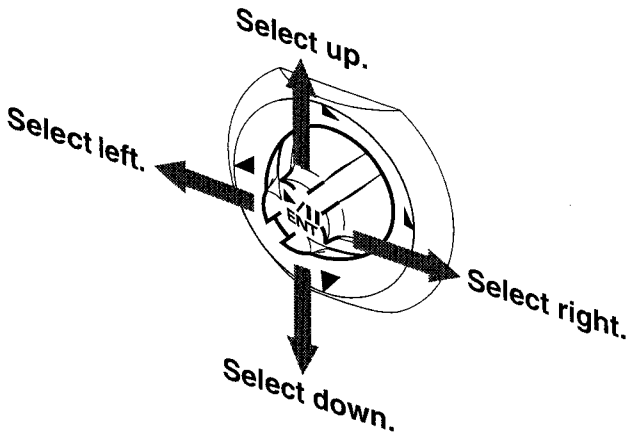
The α-selector enables you to operate main functions of each mode with a single finger.
Read through the operating procedures of the α-selector first and then read the operating explanations for each mode.

1) Put your index finger on the α-selector.



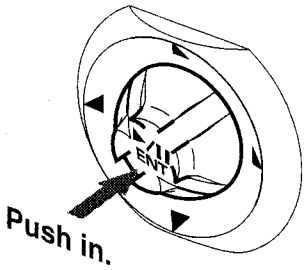
2) To select the up/down direction (▲, ▼) or the left/right direction (◀, ▶), move the α-selector to the corresponding direction.

This α-selector's operation is mainly used when operating the below:
- Adjusting the volume
- Selection of radio or TV stations
- Tune selection of a CD changer or MD changer
- Item selection of each setting



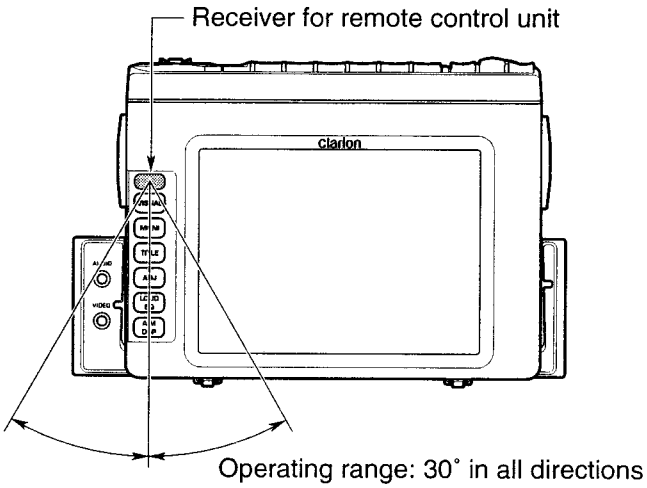
3) To select the centre (►/II ENT), push in the α-selector to the centre.

This α-selector's operation is mainly used when operating the below:
- Mute operation in radio or TV mode
- Play/pause operation of a CD changer or MD changer
- Decision operation of each setting item

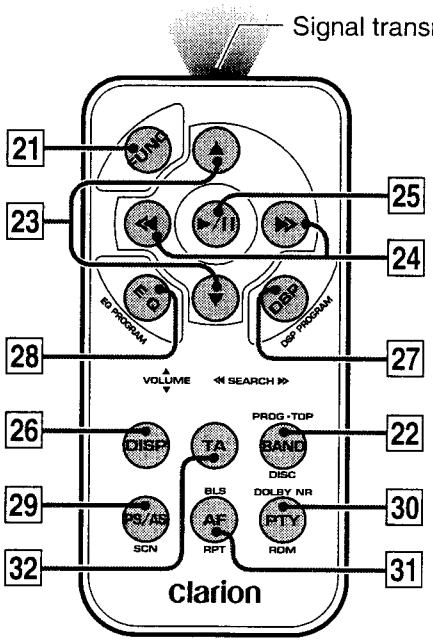


Note:
- *If you try to rotate the α-selector forcibly or apply more than needed strength to it, this results in damage or breakdown.*

8. REMOTE CONTROL

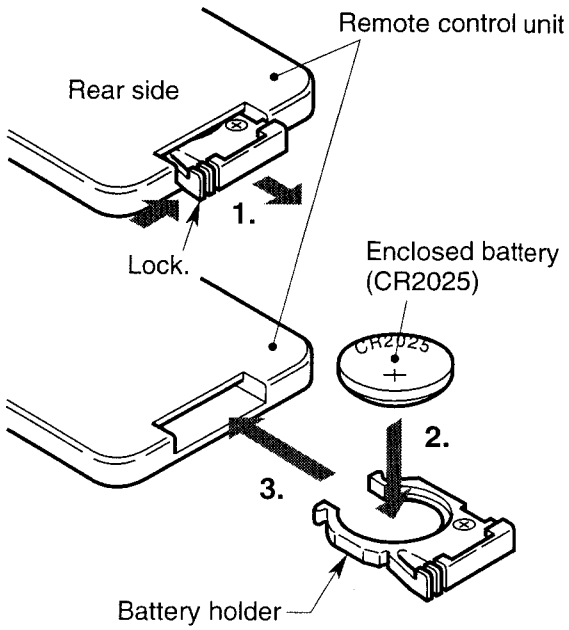


Remote control unit



Inserting the Battery

1) Turn the remote control unit upside down, push the lock in the direction of the arrow, and pull out the battery holder.
2) Insert the enclosed battery (CR2025) with the "+" side facing up.
3) Push the battery holder back in securely until a click is heard.



Notes:

Using batteries improperly can cause them to explode. Take note of the following points:

- *When replacing the battery, be sure to set the new battery with the "+" side facing up.*
- *Do not short-circuit, disassemble or heat batteries.*
- *Do not dispose of batteries in flames.*
- *Dispose of spent batteries in the proper place.*

Functions of Remote Control Unit Buttons

Mode / Button	Radio (RDS)	TV	CD changer MD changer
[21] FUNC	Switches between radio, TV and CD/MD changer.		
[22] BAND PROG DISC	Switches reception band.	Switches reception band.	Moves the next disc (CD/MD) in increasing order.
[23] VOLUME (▼▲)	Increases and decreases volume (in all modes).		
[24] SEARCH (◀◀ ▶▶)	Moves preset channels up and down.		Moves tracks up and down. When pressed and held for 1 second: Fast-forward/fast-backward.
[25] (►/II)	Turns mute on and off.		Switches between playback and pause.
[26] DISP	Toggles between the main Display [12] and the Information Panel [2] sub display.		
[27] DSP PROGRAM	Moves the DSP programme up (in all modes).		
[28] EQ PROGRAM	Moves the equalizer programme up (in all modes).		
[29] PS/AS SCAN	Preset scan. When pressed and held for 2 seconds: Auto store.		Scan play. When pressed and held for 2 seconds: Disc scan play (only CD changer mode).
[30] PTY RDM	Turns on/off the PTY standby mode. (Press and hold for 2 seconds or more to exit from the PTY standby mode.)	——	Random play. When pressed and held for 2 seconds: Disc random play (only CD changer mode).
[31] AF RPT	AF function on and off. When pressed and held for 2 seconds: REG function on and off.	——	Repeat play. When pressed and held for 2 seconds: Disc repeat play (only CD changer mode).
[32] TA	TA on/off (in all modes).		

* Some of the corresponding buttons on the source unit and remote control unit have different functions.

9. OPERATION

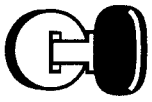
Basic Operations

Note: *Be sure to read this chapter referring to the front diagrams of chapter "2. CONTROLS" on page 5 (unfold).*

⚠ CAUTION

When this unit is turned on, starting and stopping the engine of a car with its volume raised to the maximum level may harm your hearings. Be careful about adjusting the volume.

Note: *Use this unit after starting the engine.*



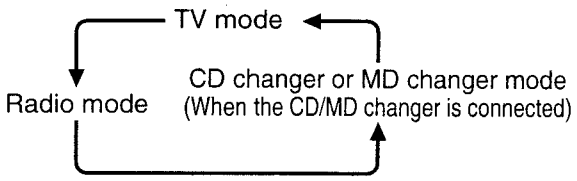
ACC or engine ON position

Turning on the power and adjusting the volume

1) After turning the car's ignition switch on and starting the engine, press the POWER button [7] to turn on the power to the unit.

* This unit starts in the mode it was in when the power was turned off last.

2) Press the FUNC button [7] to select the operation mode.
Each time you press the FUNC button [7], the operation mode changes as follows:



* Press and hold the FUNC button [7] for about one second to turn off the power.

3) Slide the α-selector [1] to ▲ (up) or ▼ (down) to adjust the volume.
▲: Increases the volume.
▼: Decreases the volume.
* The volume level indicated is in the display in a range from 0 (minimum) to 33 (maximum).

4) Pressing the DISP button [10] alternates the display contents as described below:
* If the display has been closed, the current time will be shown in the Information Panel [2].
* If the display is open, the indication in the Display [12] will change.

Note:
- *In the CONFIGURATION or BALANCE display, the volume cannot be adjusted.*

⚠ CAUTION

While driving, keep the volume to a level at which external sounds can be heard.

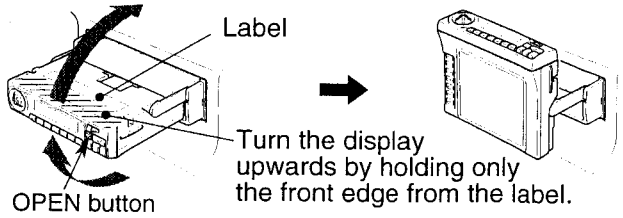
Opening and turning the display

1) Press the OPEN button [3] to open the Display [12].

Notes:
- *Do not place any object on the open display.*
- *Do not drop any object on the movable part.*
- *Do not expose the display to shocks.*

* If the display is left horizontally in the open position for 10 seconds or longer, it is automatically drawn in.

2) Turn the Display [12] upwards to a good viewing angle.
When the Display [12] is turned upwards, a picture appears. Information Panel [2] display disappears.



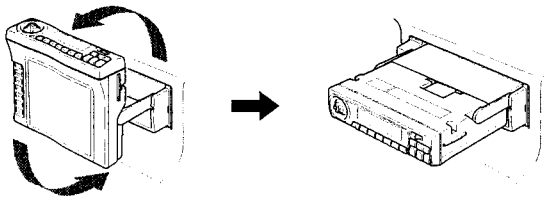
⚠ CAUTION

Do not turn the display unless it is completely open.
When adjusting the angle of the display, be careful not to let your fingers get caught by the panel or instrument panel of the vehicle.
Do not hold the part of the display beyond the label (see the illustration above).

3) To store the Display [12] in the source unit, turn it to the horizontal position until a click is heard.
* If the Display [12] is turned to the horizontal position during PS (Preset Scan) for a TV/FM/AM (MW/LW) program or SCN (Scan) for a CD/MD track, "**SRCH**" will blink.

Note:

- *When the Display [12] has been stored in the source unit, AS (Auto Store), PS (Preset Scan), SCN (Scan), RPT (Repeat) and RDM (Random Scan) are disabled. Manually turn off these functions before turning the Display [12] to the horizontal position.*



Turning on and off the monitor

Each time you press the MONI button [17], the monitor is turned on and off.

*When a button other than the volume adjustment button is pressed or during security monitoring, the monitor-off mode is canceled.

Mute

Each time you press ENT of the α-selector [1], mute is turned on and off.

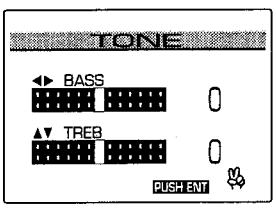
"**MUTE**" is displayed when mute is turned on in radio or TV mode, and "**PAUSE**" is displayed in CD/MD changer mode.

Adjusting the tone

Notes:

- *When the DSP or equalizer unit (DPH9300, DPH7300, or EQH5100 sold separately) is connected to the source unit, the tone is adjusted by the DSP or equalizer unit and the tone adjustment mode cannot be selected. For further information, see the section "Operating the DSP and Equalizer".*
- *If no operation is made for about 5 seconds after each operation, the unit returns to the previous mode and the settings made are stored.*

1) Press and hold the A-M button [13] for about 1 second to go to the tone (TONE) adjustment mode.



*BASS (bass) and TREB (treble) are displayed in the Information Panel [2].

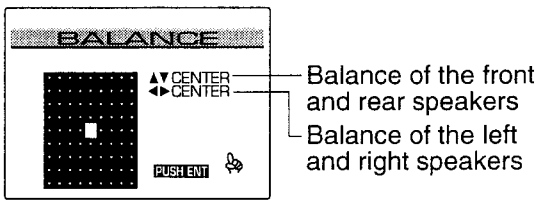
2) Slide the α-selector [1] to ◀ (left), ▶ (right), ▲ (up), or ▼ (down) to adjust the tone.
   ◀ (left) : Bass is attenuated.
   ▶ (right) : Bass is emphasized.
   ▲ (up) : Treble is emphasized.
   ▼ (down) : Treble is attenuated.
3) Press the A-M button [13] to return to the previous mode.

Adjusting the balance

Note:

- *If no operation is made for about 5 seconds after each operation, the unit returns to the previous mode and the settings made are stored.*

1) Press and hold the A-M button [13] for about 1 second to go to the tone adjustment mode.
2) When the tone adjustment mode is displayed, press ENT of the α-selector [1] to switch to the balance adjustment mode.
   * BALANCE (balance of right and left speakers) and FADER (fader: balance of front and rear speakers) are displayed in the Information Panel [2].



3) Slide the α-selector [1] to ◀ (left), ▶ (right), ▲ (up), or ▼ (down) to adjust the balance of the speakers.
   ◀: Increases the volume of the left speaker.
   ▶: Increases the volume of the right speaker.
   ▲: Increases the volume of the front speaker.
   ▼: Increases the volume of the rear speaker.

Loudness

Notes:

- *When the DSP or equalizer unit (DPH7300 or EQH5100 sold separately) is connected to the source unit, the loudness effect cannot be selected.*
- *When the DSP unit DPH9300 sold separately is connected to the source unit, loudness cannot be adjusted. See the subsection "Setting the auto loudness effect" (page 36) to adjust loudness.*

Press the LOUD button [14], the loudness effect turns on and off.

*When the loudness effect is turned on, "**LD**" appears in the display.

Radio Mode Operations

Listening to the radio

1) Press the FUNC button [7] to select radio mode.
2) Press the BAND button [8] to select a band. Each time you press the BAND button [8], the band changes in the following order:

FM1 → FM2 → FM3 → AM (MW/LW)

3) Press one of the preset buttons [9] to tune in to a station.

Seek tuning

1) While [MANU] appears in the display, press and hold the BAND button [8] for about 1 second to switch to the seek tuning.
2) Slide the α-selector [1] to ▶ (right) or ◀ (left) to start the seek tuning. When a station is found, it is automatically tuned in.
   ▶: Seeks higher frequency stations.
   ◀: Seeks lower frequency stations.
   * To stop the seek tuning, slide the α-selector [1] to ◀ (left) or ▶ (right).
   * [MANU] will be cleared 7 seconds after completing the operation.

Manual tuning

1) When [MANU] does not appear in the display, press and hold the BAND button [8] for about 1 second to select manual tuning.
   * When manual tuning is selected, [MANU] appears in the display.
2) Slide the α-selector [1] to ▶ (right) or ◀ (left) to tune in to a station.
   * Each time you slide the α-selector [1], the frequency changes in 0.05MHz steps increments for the FM and in MW; 9kHz steps/LW; 3kHz steps increments for the AM band.
   * Press and hold the α-selector [1] to ▶ (right) and ◀ (left) to increase or decrease the frequency continuously.

Preset memory function

A total of 24 stations can be preset, 6 each for the FM1, FM2, FM3, and AM (MW/LW) bands.

Note:

- *When a station is preset, the station previously stored in the memory at that position is cleared.*

Manual memory function

1) Press the BAND button [8] to select a band.
2) Slide the α-selector [1] to ▶ (right) or ◀ (left) to tune in to a station.
3) Press and hold for about 2 seconds one of the Preset buttons [9] where you want to store the station. When a beep sounds, the station is stored in that button.
   * One station in each band can be preset to each button.

Auto store function

Note:

- *This function is not available when the display is stored.*

1) Press the BAND button [8] to select a band.
2) Press the DISP button [10] to select PS/AS mode.
   * Press the DISP button [10] again to return to preset mode.
3) When PS/AS mode is displayed, press and hold No. 2 of the Preset buttons [9] for about 2 seconds. Stations with good reception are automatically stored in preset buttons starting from Preset button [9]. (After storing 6 stations, preset No. 1 station is tuned in and auto storing ends.)
   * [A·S] in the display becomes pink.
   * Stations with good reception are stored in the order from the current station to stations with a higher frequency. If there are fewer than 6 stations with good reception, the auto storing returns to the lowest frequency and resumes from there.

Note:

- *When stations are preset by the auto store function, the station previously stored in the memory at that position is cleared. If there are fewer than 6 stations with good reception, the stations previously stored at the remaining preset buttons are not cleared.*

Preset scanning

Note:

- *This function is not available when the display is stored.*

1) Press the BAND button [8] to select a band.
2) Press the DISP button [10] to select PS/AS mode.
   * Press the DISP button [10] to return to preset mode.

3) In PS/AS mode, when No. 1 of the Preset buttons [9] is pressed, the preset stations are tuned in for 5 seconds each.
   * [P·S] in the display becomes pink.
   * When a preset station has been tuned in, preset scanning starts from the station after the current one. When a preset station has not been tuned in, preset scanning starts from preset No. 1.
4) When a desirable station is tuned in, press No. 1 of the Preset buttons [9] to cancel PS/AS mode and press the preset button to which the station is to be stored.
   * The preset scanning is canceled and you can listen to the station.

Preset selection

1) Press the BAND button [8] to select a band.
2) Press one of the Preset buttons [9] to select the stored station.

Note:

- *In PS/AS mode, do not perform the preset selection (excluding the preset scanning).*
  In PS/AS mode, when No. 2 of the Preset buttons [9] is pressed and held for about 2 seconds, the auto storing starts and all the stored stations are cleared.

RDS Operations

RDS (Radio Data System)

This unit incorporates an RDS system decoder for use with stations broadcasting RDS data.
This system enables the radio to display the name of the station being received (PS), and also to automatically switch to a better frequency when one is available while you are traveling great distances (AF switching).
It can also interrupt a CD/MD or TV with traffic information or the programme type broadcast by an RDS station.
Additionally, if EON information is received, this information enables automatic switching of other preset stations on the same network and interruption of the station being received with traffic information from other stations (TP). This function may not work in some regions.
To use the RDS function, be sure to set the radio to FM mode.

- **AF** : Alternative Frequencies
- **PS** : Programme Service Name
- **PTY** : Programme Type
- **EON**: Enhanced Other Network
- **TP** : Traffic Programme

* If an RDS station can no longer be received clearly (at the current location), "**AF**" flashes in the display. When reception is restored, "**AF**" stops flashing.

AF function

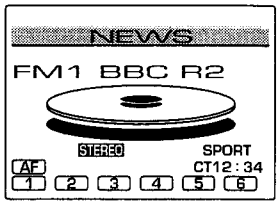
The AF function enables the unit to maintain optimum reception by switching to different frequencies on the same network.
* The factory setting is "**ON**".

Turning AF function off

When "**AF**" is lit or flashing in the display, press the AF button [5]. "**AF**" in the display goes off and AF turns off.

Turning AF function on

When "**AF**" is not lit in the display, press the AF button [5] again. "**AF**" lights in the display and AF turns on.
If the receiving condition of a station being tuned is getting worse, "**AF**" starts flashing and the unit tries to switch to an alternative frequency. If switching cannot be performed, the display switches to "**SEARCH**" and the unit searches for the same programme.



REG (Regional Programme) function

When REG function is on, regional station reception is optimized.
If this function is off, the unit switches in to the regional station in the next local area when you enter the next area while receiving the regional station in the previous local area.
* The factory setting is "**OFF**".

Notes:

- *This function is ineffective when a national station such as BBC 2 FM is being received.*
- *The on/off setting of REG is effective when AF is on.*

Turning REG function on

When "**REG**" is not lit in the display, pressing and holding the AF button [5] for 2 seconds or longer. "**REG**" lights in the display.

Turning REG function off

Pressing and holding the AF button [5] for 2 seconds or longer again. "**REG**" in the display goes off.

Manual tuning of related regional stations

1) This function works when AF is on and REG is off.

Note:

- *This function is effective when related regional stations are received.*

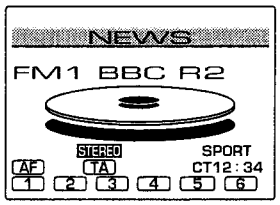
2) Press one of the Preset buttons [9] to recall a regional station.
3) If the receiving condition of a recalled station is bad, press the same Preset button [9]. The unit switches to a related regional station.

TA (Traffic Announcement)

When the unit is in the TA standby mode, you can listen to traffic announcements preferentially when they start, irrespective of the function mode.
You can also tune in to TP (Traffic Programme) stations automatically.

To set the TA standby mode

If you press the TA button [6] when only "**TP**" is lit in the display, "**TP**" and "**TA**" light in the display and the unit is set to the TA standby mode until traffic announcements start.
When traffic announcements start, "**TRA INFO**" appears in the display, and then PS (Programme Service Name) appears.



If you press the TA button [6] while traffic announcements are being broadcast, they are cancelled and the unit enters TA standby mode.

Cancelling the TA standby mode

If you press the TA button [6] when "**TP**" and "**TA**" are lit in the display, "**TA**" in the display goes off and the TA standby mode is cancelled.

Setting the auto tuning mode for TP stations

If you press the TA button [6] when only "**TP**" is lit or "**TP**" and "**TA**" are not lit in the display, "**TA**" lights and the unit automatically tunes in to TP stations.

Note:

- *The unit continues to tune in automatically if no TP station is received. Press the TA button [6] again to stop auto tuning.*

Auto store function for TP stations

Note:

- *This function is not available when the display is stored.*

Auto storing while "TA" is lit:

Only TP stations are auto stored.

* Refer to PS/AS function in radio mode.

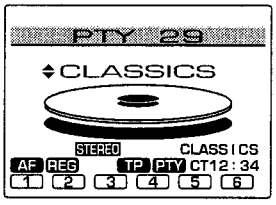
PTY

This function enables you to listen to selected programme type, irrespective of the function mode.
PTY broadcasts are not yet available in all countries.
In TA standby mode, TP stations have priority over PTY broadcasting stations.

* Emergency messages interrupt all modes of operation. They can only be received from RDS stations. "**ALARM**" appears in the display and message can be heard.
  Press the AF button [5] to cancel the ALARM broadcasts.

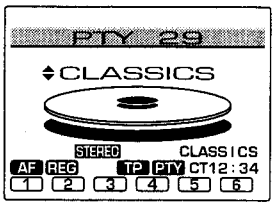
Selecting PTY

1) When you press the PTY button [5], "**PTY**" lights and PTY appears in the display. The unit enters PTY select mode.



   If the control is idle for 7 seconds after the PTY select mode has been entered, the display automatically returns to radio mode display and the unit enters the PTY standby mode.

2) Select a PTY.
   Press one of the Preset buttons [9] to select the desired PTY or select up or down to obtain a desired PTY using the α-selector [1].



   * The following stored already into the preset buttons for your convenience.

Preset No.	PTY	
	ENGLISH	(English)
1	NEWS	(News)
2	INFO	(Information)
3	POP M	(Popular music)
4	SPORT	(Sports)
5	CLASSICS	(Classic Music)
6	M, O, R, M	(Middle of the Road Music)

3) Press the PTY button [5] again to enter standby mode for the selected PTY.
When a selected PTY broadcast starts, the selected PTY appears in the display.
If you press the PTY button [5] during PTY broadcasts, PTY broadcasts are temporarily cancelled and the unit enters PTY standby mode.

Cancelling PTY standby mode
Press and hold the PTY button [5] for 2 seconds or longer to turn off "**PTY**" in the display.

Preset memory of PTYs

1) Press the PTY button [5] to enter PTY select mode.
If the control is idle for 7 seconds after the PTY select mode has been entered, the display automatically returns to radio mode display and the unit enters the PTY standby mode.
2) Select up or down to get obtain a desired PTY using the α-selector [1].
The following 15 PTYs are selectable.

PTY Display	
ENGLISH	(English)
NEWS	(News)
AFFAIRS	(Affairs)
INFO	(Information)
SPORT	(Sports)
EDUCATE	(Education)
DRAMA	(Drama)
CULTURE	(Culture)
SCIENCE	(Science)
VARIED	(Variety)
POP M	(Popular music)
ROCK M	(Rock music)
M, O, R, M	(Middle of the Road Music)
LIGHT M	(Light music)
CLASSICS	(Classic music)
OTHER M	(Other music)

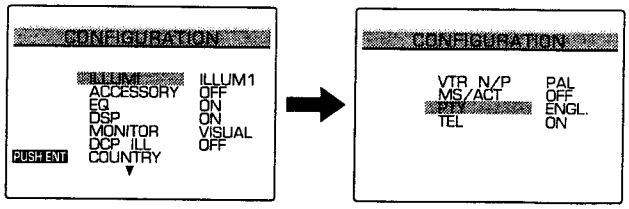
3) Press and hold one of the Preset buttons 1 to 6 for 2 seconds or longer to put it into memory. After PTY is stored in memory, "**PTY MEMORY**" appears in the display.

Seek tuning of PTYs

1) Press the PTY button [5] to enter PTY select mode.
2) Select a PTY.
3) Select left or right using the α-selector [1], when a receivable and desired PTY is found. It is automatically tuned in. If you select left or right, the PTY is sought in the direction of a higher or lower frequency channel.
If no stations broadcasting selected a PTY, seek tuning stops at the previous station and the unit stays in PTY standby mode.

Switching PTY display language

The PTY characters shown in the display can be selected from 4 languages (English, German, Swedish, French).
* The factory setting is "**ENGL.**".
1) Press the ADJ button [15].



2) Select up or down until "**PTY**" is displayed using the α-selector [1].
3) Select right to select the desired language using the α-selector [1].
Each time you pressed the selector, the PTY display language switches in the following order:

ENGL. → DEUT. → SVENSK → FRANC.

4) Press the ADJ button [15] to return to radio mode.

Note:

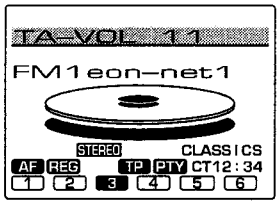
- *Special characters other than alphabet characters may not be displayed properly.*

Volume setting of TA, emergency (ALARM) and PTY

You can set the volume of TA, ALARM and PTY to a desired level.

* The factory setting is "**TA–VOL 11**".

1) Press and hold the TA button [6] for 2 seconds or longer to enter TA VOL ADJ mode.
   If the control is idle for 7 seconds after the TA VOL ADJ mode has been entered, the display returns to radio mode display automatically.
2) Select up or down to set the volume level using the α-selector [1].



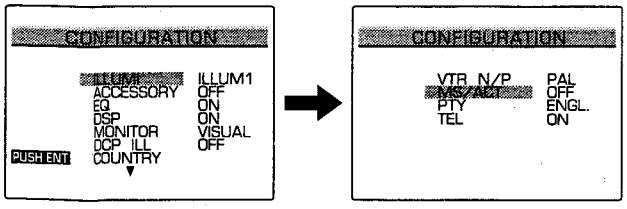
   * The volume remains unchanged if the volume before the TA, ALARM and PTY broadcasts are received is higher than the previously set volume.
   If it is lower, the volume changes to the level set in TA VOL ADJ mode.
3) Press the TA button [6] to complete volume setting.

MS (Music Speech) function

While receiving speech programme with speech data and this function is on, this enables you to set the bass/treble to a constant level so that you can listen to the speech programme clearly.
When speech is finished, the sound returns to the original bass/treble adjustment.

* The factory setting is "**OFF**".

1) Press the ADJ button [15].



2) Select up or down until "**MS/ACT**" is displayed using the α-selector [1].
3) Select right to turn "**ON**" or "**OFF**" using the α-selector [1].
4) Press the ADJ button [15] again to return to radio mode display.

Note:

- *When you receive speech data with the M/S function set to "**ON**" while a DSP/EQ such as DPH9300, DPH7300 and EQH5100 etc. is connected to this unit, the unit invalidates the DSP/EQ adjustments.*

* When receipt of speech data has finished, the sound quality returns to the original bass/treble adjustment level or the sound level set on the DSP/Equalizer.

CT (Clock Time) function

The CT function enables you to display clock time only when CT data is received.
Press the DISP button [13] to switch the display to the CT indication.

* When CT data is not received, "**CT--:--**" is displayed.

Note:

- *There are some countries and stations where clock time data are not transmitted. In some areas, the CT may not be displayed correctly.*

English

CD Changer or MD Changer Mode Operations

Before using CD changer:
This unit can control a separately sold CD changer to store and play up to 18 CDs.

Before using MD changer:
This unit can control a separately sold MD changer to store and play up to 6 MDs.

Note:
- *CD-ROM discs cannot be played.*

Listening to a CD/MD

1) Press the FUNC button [7] and select CD/MD changer mode. Playback starts automatically.
2) Press one of the Disc No. buttons [9] (No. 1 to No. 6) corresponding to each CD/MD to select one.
   * The selected CD/MD No. becomes pink in the display.

Note:
- *If a slot in a magazine is empty, that slot No. does not appear in the display and cannot be selected, only when the CD changer mode.*

3) Slide the α-selector [1] to ▶ (right) or ◀ (left) to select a track (song).
   ▶: Selects the next track (Example: The third track from the current one is selected by sliding the selector 3 times.)
   To return to the beginning of the current track, slide the α-selector [1] once to ◀ (left).
   ◀: Selects the previous track (Example: The third track before the current one is selected by sliding the selector 1+3=4 times (the first sliding returns you to the beginning of the current track)).

Notes:
- *After CD/MD No. 6 is played, CD/MD No. 1 is played again. However, when a CD changer capable of storing 12 or 18 CDs (MD changer capable of storing 6 MDs) is connected to the unit, all CDs in all magazines are played sequentially (unless the magazine is locked, only when the CD changer mode).*
- *The empty slot No. is skipped and the next CD/MD is played.*

Fast-forward and fast-backward

1) Slide and hold the α-selector [1] to ▶ (right) and ◀ (left). The CD/MD fast-forwards or fast-backwards while the selector is being held.
   ▶: Moves forward 3 times faster than normal play when you slide it for about 1 second and 15 times faster than normal play when you slide it for 5 seconds or longer.
   ◀: Moves backward 3 times faster than normal play when you slide it for about 1 second and 15 times faster than normal play when you slide it for 5 seconds or longer.

Note:
- *Slide the α-selector [1] to ▶ (right) or ◀ (left) for 1 second or shorter to switch the tracks.*

2) Release the selector when you reach the desired track to start playback.

Pausing playback

1) Press ▶/II of the α-selector [1] to pause playback.
   * "**PAUSE**" appears in the display.
2) Press ▶/II of the α-selector [1] again to resume playback.

Scan play

This function plays the first 10 seconds of all the tracks on the current CD/MD (track scan) or first 10 seconds of the first track of all the CDs in the CD changer (disc scan).

1) Press the DISP button [10] to select SCN/RPT/RDM mode.
2) Press No.1 of the Disc No. buttons [9] to start track scan. Scanning starts from the next track of the current one.
   Press No.1 of the Disc No. buttons [9] for about 2 seconds to start disc scan. Scanning starts from the next disc of the current one.
   * [SCN] becomes pink and [T-SCN] or [D-SCN] appears in the display.
   * Turning off the power cancels scan play.
   * The disc scan play function is disabled in the MD changer mode.
3) Press No.1 of the Disc No. buttons [9] when you reach the track you want to listen to. Playback resumes.

Repeat play

This function plays the current CD/MD track (track repeat) or the current CD (disc repeat) repeatedly.

1) Press the DISP button [10] to select SCN/RPT/RDM mode.

2) Press No.2 of the Disc No. buttons [9] to start track repeat or press it for about 2 seconds to start disc repeat.
   * [RPT] becomes pink and [T-RPT] or [D-RPT] appears in the display.
   * To cancel track repeat or disc repeat, press No.2 of the Disc No. buttons [9] again. Playback resumes.
   * The disc repeat play function is disabled in the MD changer mode.

Random play

This function plays all the tracks on the current CD/MD (track random) or plays the all CDs in the magazine (disc random) in random order.

1) Press the DISP button [10] to select SCN/RPT/RDM mode.
2) Press No.3 of the Disc No. buttons [9] to start track random or press it for about 2 seconds to start disc random.
   * [RDM] becomes pink and [T-RDM] or [D-RDM] appears in the display.
   * The disc random play function is disabled in the MD changer mode.
3) When a track that you want to listen to is played, press No.3 of the Disc No. buttons [9] again to resume playback.

Switching the magazine

(only when the CD changer is connected)

Note:

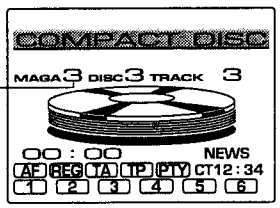
- *This function is not available with the CD changer storing 6 CDs.*

Press the MAGA button [8] to select a magazine. Each time you press the MAGA button [8], the magazine switches in the following order:

Magazine 1 → Magazine 2 → Magazine 3 (when a CD changer storing 3 magazines is connected) → Magazine 1

Playback starts from No. 1 CD in the selected magazine.

* The selected magazine No., DISC No., and TRACK No. appear in the display.



Locking the magazine

(only when the CD changer is connected)

1) Press and hold the MAGA button [8] for about 2 seconds to play CDs on only the selected magazine.
   * The selected magazine No. becomes pink in the display.

Notes:

- *Even when the magazine is locked, pressing the MAGA button [8] switches to the new magazine which is locked.*
- *When the magazine is locked, scanning and random playback are performed only for the locked magazine.*

2) To cancel, press and hold the MAGA button [8] for about 2 seconds. Playback resumes.

Toggling between track and disc title names/Scrolling through disc title names

(only when the MD changer is connected)

In the MD changer mode, the title name display can be toggled between track and disc title names. It is also possible to scroll through disc title names.

1) Press the DISP button [10] to enter the SCN, RPT, RDM or <D/T> mode.
2) Press the rightmost No.6 of the Disc No. buttons [9] to switch the track title name to the disc title name, or vice versa.

   When a disc title name is displayed, press and hold down the rightmost No.6 of the Disc No. buttons [9] for approx. one second to scroll the display up to the next disc title name.
   * These functions are disabled when the Display [12] has been stored in the source unit.

English

Owner's manual

TV Mode Operations

⚠ WARNING

For your safety, the driver should not watch the TV or operate the controls while driving. Please note that watching and operating the TV while driving are prohibited by law in some countries.

Watching TV

Notes:

- *For safety, the VRX8470R has a safety function which turns off the picture when the car is moving, so only the audio can be heard. The picture can only be watched when the car is stopped and the parking brake is applied.*
- *After setting a country to be received, tune in to a station. For setting the country, see the subsection "Setting the receiving country" (page 28).*
- *With the Display [12] stored in the source unit, press and hold the BAND button [8] for approx. 1 second to toggle between the seek tuning and the manual tuning. (When the seek tuning is selected, "**SRCH**" lights.)*

1) Press the FUNC button [7] to select TV mode.
2) Press the BAND button [8] to select a band and mode.
   Each time you press the BAND button [8], the band and mode changes in the following order:
   TV-1 → TV-2 → VTR
3) Press one of the Preset buttons [9] to tune in to a station.

Seek tuning

1) While [MANU] appears in the display, press and hold the BAND button [8] for about 1 second to switch to the seek tuning.
2) Slide the α-selector [1] to ▶ (right) or ◀ (left) to start the seek tuning. When a station is found, it is automatically tuned in.
   ▶: Seeks higher frequency stations.
   ◀: Seeks lower frequency stations.
   * To stop the seek tuning, slide the α-selector [1] to ◀ (left) or ▶ (right).

Manual tuning

1) When [MANU] does not appear in the display, press and hold the BAND button [8] for about 1 second to select manual tuning.
   * When manual tuning is selected, [MANU] appears in the display.
2) Slide the α-selector [1] to ▶ (right) or ◀ (left) to tune in to a station.
   * Each time you slide the α-selector [1], the frequency changes for the TV band.
   * Press and hold the α-selector [1] to ▶ (right) and ◀ (left) to increase or decrease the frequency continuously.

Preset memory function

A total of 12 stations can be preset, 6 each for the TV-1 and TV-2 bands.

Note:

- *When a station is preset, the station previously stored in the memory at that position is cleared.*

Manual memory function

1) Press the BAND button [8] to select a band.
2) Slide the α-selector [1] to ▶ (right) or ◀ (left) to tune in to a station.
3) Press and hold for about 2 seconds one of the Preset buttons [9] where you want to store the station. When a beep sounds, the station is stored in that button.
   * One station in each band can be preset to each button.

Auto store function

Note:

- *This function is not available when the display is stored.*

1) Press the BAND button [8] to select a band.
2) Press the DISP button [10] to select PS/AS mode.
   * Press the DISP button [10] again to return to preset mode.
3) When PS/AS mode is displayed, press and hold No. 2 of the Preset buttons [9] for about 2 seconds. Stations with good reception are automatically stored in preset buttons starting from Preset button [9]. (After storing 6 stations, preset No. 1 station is tuned in and auto storing ends.)
   * [A·S] in the display becomes pink.
   * Stations with good reception are stored in the order from the current station to stations with a higher frequency. If there are fewer than 6 stations with good reception, the auto storing returns to the lowest frequency and resumes from there.

Note:

- *When stations are preset by the auto store function, the station previously stored in the memory at that position is cleared. If there are fewer than*

6 stations with good reception, the stations previously stored at the remaining preset buttons are not cleared.

Preset scanning

Note:

- *This function is not available when the display is stored.*

1) Press the BAND button [8] to select a band.
2) Press the DISP button [10] to select PS/AS mode.
   * Press the DISP button [10] to return to preset mode.
3) In PS/AS mode, when No. 1 of the Preset buttons [9] is pressed, the preset stations are tuned in for 5 seconds each.
   * [P·S] in the display becomes pink.
   * When a preset station has been tuned in, preset scanning starts from the station after the current one. When a preset station has not been tuned in, preset scanning starts from preset No. 1.
4) When a desirable station is tuned in, press No. 1 of the Preset buttons [9] to cancel PS/AS mode and press the preset button to which the station is to be stored.
   * The preset scanning is canceled and you can listen to the station.

Preset selection

1) Press the BAND button [8] to select a band.
2) Press one of the Preset buttons [9] to select the stored station.

Note:

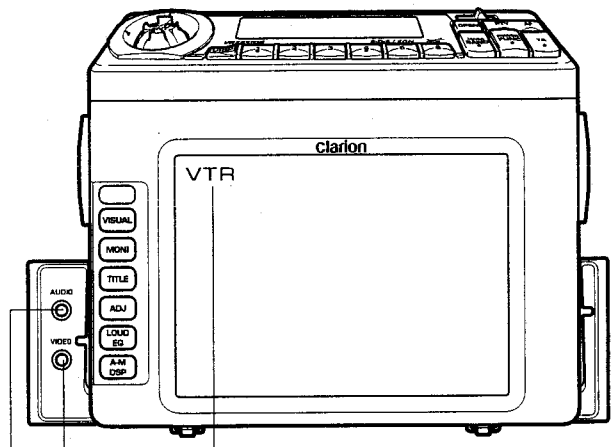
- *In PS/AS mode, do not perform the preset selection (excluding the preset scanning).*
  In PS/AS mode, when No. 2 of the Preset buttons [9] is pressed and held for about 2 seconds, the auto storing starts and all the stored stations are cleared.

Watching videos (VTR)

Connect a video component to the unit to playback it.

Notes:

- *To connect, purchase a converter lead (RCA pin → mini-jack).*
- *Be sure to turn off the power to the source unit and the video component when connecting them.*



"**VTR**" is displayed for a few seconds.

Video (VIDEO) ┐
Audio (AUDIO) ┘ VTR input terminal

1) Connect the video component to the video input terminal on the front panel of the source unit.
2) Press the POWER/FUNC button [7] to turn on the power to the source unit.
3) Press the POWER/FUNC button [7] to go to TV mode.
4) Press the BAND button [8] to go to video (VTR) mode.
   * When a component is connected to the system expansion terminal (8-pin) on the rear of the source unit, each time you press the BAND button [8], the mode changes in the following order. Select VTR-2. (VTR-1 is for a component connected to the system expansion terminal.)

TV-1 → TV-2 → VTR-1 → VTR-2 →

5) Following the instruction manual of the video, turn on the power to the video component and start playback.

!

Like with the TV picture, the VRX8470R has a safety function which turns off the video picture when the car is moving, so only the audio can be heard.
The video picture can only be watched when the car is stopped and the parking brake is applied.

Listening to a CD/MD while watching TV (monitor lock)

In monitor lock mode, you can listen to a CD/MD or radio while watching TV or video.

Notes:

- *While watching TV, you cannot listen to the radio.*
- *While watching video, you can select a CD/MD or radio.*
- *When the display is stored, the monitor lock is cancelled and the power is turned off.*

1) Press the POWER/FUNC button [7] to select CD/MD or radio (audio).

Note:

- *When the radio is selected, only the video (not TV) can be selected.*

2) The monitor lock is turned on and off when the VISUAL button [18] is pressed.
   * When the monitor lock is turned on, the illumination colour of the VISUAL button [18] changes. (If green illumination is selected, the VISUAL button shows amber; if amber illumination is selected, the VISUAL button shows green.) When the audio is set in Mute/Pause mode, the VISUAL button [18] alternates between amber and green.
3) Press the BAND button [8] to select TV or video.
4) Select the TV channel or start the video playback.
   * When a TV station is stored to the Preset button [9], the station can be selected by pressing the button.

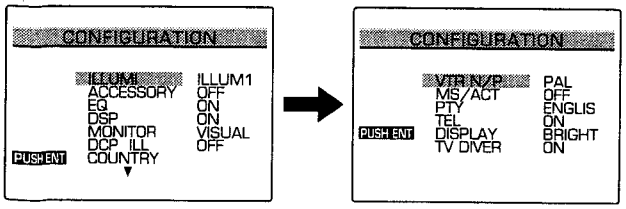
Note:

- *When the monitor lock is turned on, sliding the α-selector [1] to ▶ (right) and ◀ (left), or pressing the BAND button [8] and the Preset button [9] has the same function as they are used in TV mode.*

Switching the VTR system between NTSC and PAL

Switch to the VTR system you use.

1) Press the ADJ button [15] to go to the CONFIGURATION mode.
2) Slide the α-selector [1] to ▲ (up) or ▼ (down) to move the cursor to "**VTR N/P**".



3) Slide the α-selector [1] to ▶ (right) to select "**NTSC**" or "**PAL**".
4) Press the ADJ button [15] to return to the previous mode.

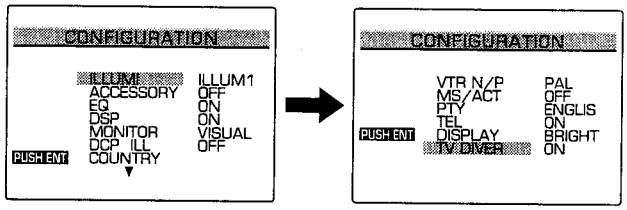
Switching the TV diversity

The 4-channel TV diversity can be turned on and off if you connected an additional antenna.

Note:

- *When one antenna is connected, the diversity should be "**OFF**"(factory setting is "**ON**"). Wrong setting may cause noise.*

1) Press the ADJ button [15] to go to the CONFIGURATION mode.
2) Slide the α-selector [1] to ▲ (up) and ▼ (down) to move the cursor to "**TV DIVER**".



3) Slide the α-selector [1] to ▶ (right) to select "**ON**" or "**OFF**".
4) Press the ADJ button [15] to return to the previous mode.

Note:

- *If the receiving country has been set to France, TV DIVER will not be displayed. (The diversity function switches off.)*

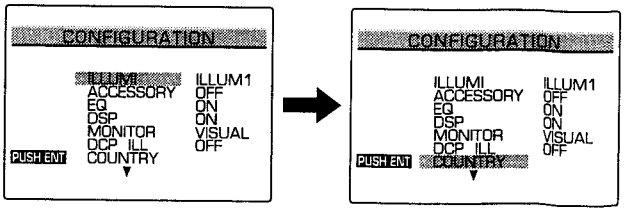
Setting the receiving country

Note:

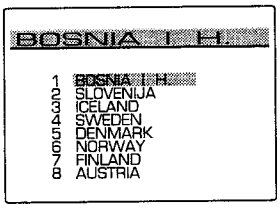
- *This function is not available when the display is stored.*

Depending on the country to be received, switch the area as follows:

1) Press the ADJ button [15] to go to the CONFIGURATION display.
2) Slide the α-selector [1] to ▲ (up) or ▼ (down) and move the cursor to "**COUNTRY**".



3) The country currently set is displayed when ENT of the α-selector [1] is pressed.



4) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to a country to be received and press ENT of the α-selector [1].
5) Press the ADJ button [15] to return to the previous mode.

List of selectable countries

1	BOSNIA I H.	14	PORTUGAL
2	SLOVENIJA	15	ITALY
3	ICELAND	16	ALBANIA
4	SWEDEN	17	IRELAND
5	DENMARK	18	U.K.
6	NORWAY	19	CZECH
7	FINLAND	20	HUNGARY
8	AUSTRIA	21	SLOVAKIA
9	NETHERLANDS	22	RUSSIA
10	SWISS	23	FRANCE
11	SPAIN	24	MOROCCO
12	GERMANY	25	GREECE
13	BELGIUM		

Note on the TV display (PAL system) with the country set to Italy

If the country has been set to Italy, some operation names in the TV mode will be given in Italy, as shown below:

Preset Scan → SCANSIONE
Auto Store → MEMORIZZA
ONLY → SOLO

Note on the TV (PAL system) sound mute function with the country set to Italy

When you have switched to the TV mode (or, turned on the power to the TV mode, performed a preset call, or switched the bands), the mute function may be automatically invoked if signals from the current station is weak. The function will be cleared once the receiving condition has been improved.

Note when the TV receiving country is set to France

If the TV receiving country has been set to France, the receivable channels range from L5 to L12.

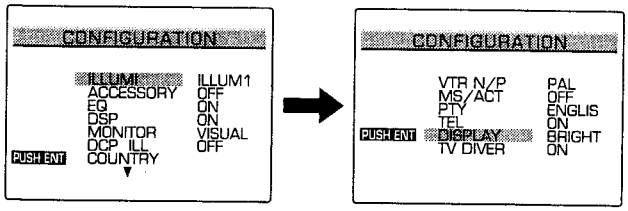
English
Owner's manual

Adjusting the brightness and tone of color

Notes:

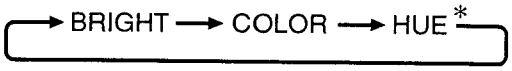
- *This operation is available only when the car is stopped and the parking brake is applied.*
- *This function is not available when the display is stored.*
- *HUE can be adjusted only when the NTSC mode is selected.*

1) Press the ADJ button [15] to select the CONFIGURATION display.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to "**DISPLAY**".



Adjusting the brightness

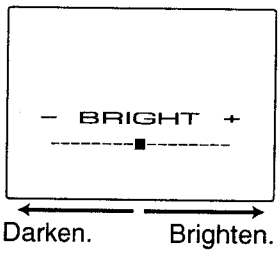
3) Slide the α-selector [1] to ▶ (right) to select either of BRIGHT, COLOR, or HUE.
Each time you slide the α-selector [1] to ▶ (right), the adjustment mode switches in the following order:



* NTSC (VTR mode) mode only

BRIGHT : Adjusts the brightness of the display.
COLOR : Adjusts the color saturation.
HUE : Adjusts the tone of color. (red is emphasized ↔ green is emphasized.)

4) Press ENT of the α-selector [1] to select what to adjust.



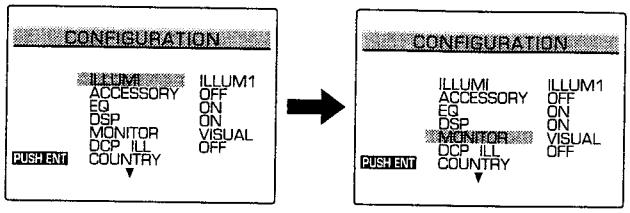
BRIGHT is selected.

5) Slide the α-selector [1] to ▶ (right) or ◀ (left) to adjust the brightness.
6) After the adjustment, press ENT of the α-selector [1] to return to the CONFIGURATION display.
7) Press the ADJ button [15] to return to the previous mode.

Connecting an external monitor

An output terminal for an external monitor is provided on the back of the unit to connect an external monitor.

1) Press the ADJ button [15] to select the CONFIGURATION display.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to "**MONITOR**".



3) Slide the α-selector [1] to ▶ (right) and switch "**AUDIO**" to "**VISUAL**".
* Slide the α-selector [1] to ▶ (right) again to return to "**AUDIO**".

AUDIO : A picture is turned on only in TV or VTR mode. The display becomes black (external monitor) in radio or CD/MD changer mode. (Even if the security camera is connected, the picture does not appear on the external monitor.)
VISUAL : The security camera is monitored on the display. (Only when the security camera is connected. When it has not been connected, display becomes black in radio or CD/MD changer mode.)

4) Press the ADJ button [15] to return to the previous display.

Rear Vision Camera

Note:

- *Use this camera as an auxiliary means to checking obstacles.*

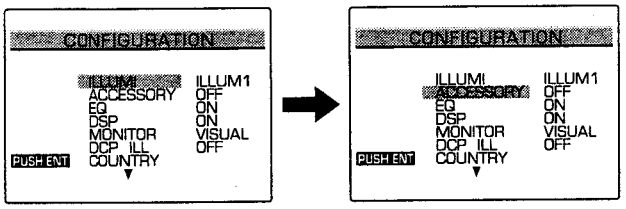
Monitoring the rear vision camera

The rear vision camera can be connected to this unit.
For the power supply of the camera, mount the power box sold separately (CCA-147).

Note:

- *This function is not available when the display is stored.*

1) Press the ADJ button [15] to select the CONFIGURATION display.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to "**ACCESSORY**".
3) Slide the α-selector [1] to ▶ (right) to change "**OFF**" to "**ON**".



Note:

- *When "**ACCESSORY**" in the CONFIGURATION display is turned on, the setting can be switched even if the camera has not been connected.*

4) Press the ADJ button [15] to return to the previous mode.
5) In radio or TV mode, press the VISUAL button [18] to switch to the camera mode.
   In CD/MD changer mode, press the VISUAL button [18] twice and go to the camera display.

Notes:

- *When you shift into the reverse gear, the rear vision camera is automatically turned on.*
- *When "**ACCESSORY**" is set to "**ON**", the rear vision camera display can be turned on only by pressing the VISUAL button [18].*

* To cancel the rear vision camera, change "**ON**" to "**OFF**" of the "**ACCESSORY**" in step 3) above.

English

Other Functions

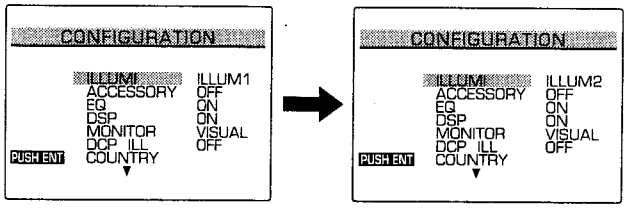
Note:

- *The following operation is not available when the display is stored.*

Switching the button color

Button color can be switched between green and amber.

1) Press the ADJ button [15] to select the CONFIGURATION display.
2) Each time you slide the α-selector [1] to ▶ (right), the button color toggles between green (ILLUM1) and amber (ILLUM2).



3) Press the ADJ button [15] to return to the previous mode.

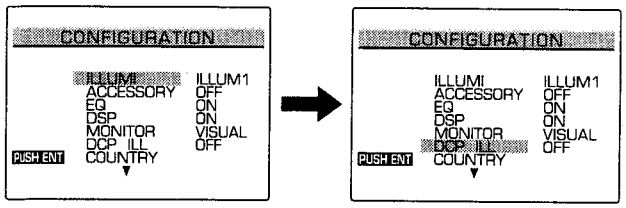
Always turning on the button illumination on the operation panel

The button illumination on the operation panel, when the display is turned upward, can be switched between "**AUTO**" and "**OFF**".

AUTO : Button illumination on the operation panel turns on for 5 seconds.

OFF : Button illumination is always on when the power is turned on.

1) Press the ADJ button [15] to go to the CONFIGURATION display.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to "**DCP ILL**".



3) Slide the α-selector [1] to ▶ (right) to switch indication "**AUTO**" to "**OFF**".
4) Press the ADJ button [15] to return to the previous mode.
   * To set "**AUTO**" again, switch "**OFF**" to "**AUTO**" manually.

Titling

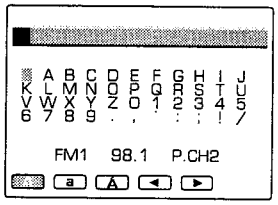
You can give any TV station or CD title with a desired name. These "**titles**" are retained in memory. When the titled station is tuned in or the CD is played, its title appears in the display.

Entering a title

Notes:

- *Up to 20 TV stations can be titled. Also 50 CDs scan be titled.*
- *If you try to input more than the specified number of titles, "**OVER FLOW**" appears in the display and further input becomes impossible. Delete unnecessary titles to input new ones.*
- *A CD title can be entered only when it is played.*

1) Select a station or CD which you want to title.
2) Press the TITLE button [16] and select the title input display.



   * Each time you press the TITLE button [16], the display switches in the following order.

Title input display → TITLE SELECT → TITLE CLEAR → Preset mode → Title input display

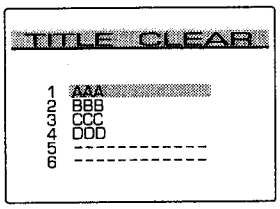
3) Press No. 1 and No. 2 of the Preset buttons [9] to select the letter type.
   No. 1 of the Preset buttons [9]: Upper case letters and figures
   No. 2 of the Preset buttons [9]: Lower case letters and symbols
4) Slide the α-selector [1] to ▲ (up), ▼ (down), ◀ (left), or ▶ (right) to move the pink cursor to the letter you want to enter. Press ENT of the α-selector [1]. The selected letter is entered at the cursor (black) on the top of the display.
   * Repeat steps 3) and 4) above to enter the title.
   * If you entered the wrong letter, press No. 4 of the Preset buttons [9] to backspace the cursor (black) and enter the correct letter this time.
   * Press No. 5 of the Preset buttons [9]. The cursor (black) moves to the right.
5) After entering the title, press and hold ENT of the α-selector [1] for about 2 seconds.
   * The title is stored when the beep sounds and the previous mode is recalled.

Notes:

- *The title list of the title select display in TV or CD changer mode displays only titles for the preset stations.*
- *After entering a title, if you change the reception area, inconsistency between the entered title and the frequency occurs.*
- *A title cannot be entered when the monitor is locked.*

Clearing the title

1) Select the mode where the title you want to clear is stored (TV or CD changer mode).
2) Press the TITLE button [16] to go to the TITLE CLEAR display.



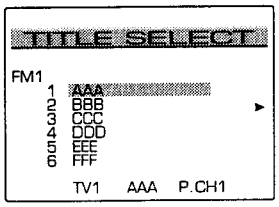
3) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to the title you want to clear and press and hold ENT of the α-selector [1] for about 2 seconds. The title is cleared when the beep sounds.
4) Press the TITLE button [16] to return to the previous mode.

Changing the title

1) Select the mode where the title you want to change is stored (TV or CD changer mode).
2) Press the TITLE button [16] to select the title input display.
   Change the title using the procedure described in step 3) above and in the subsection "Entering a title" (page 32).

Selecting the title

1) Select the mode where the title you want to select is stored (TV or CD changer mode).
2) Press the TITLE button [16] twice to select the TITLE SELECT display.
   The entered titles appear after the title numbers.



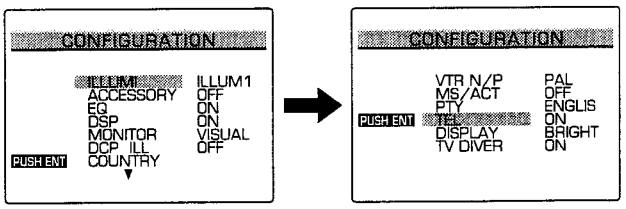
   * In CD mode, the TITLE SELECT display cannot be selected.
   * In radio, TV mode, slide the α-selector [1] to ◀ (left) or ▶ (right) to select a band.
3) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to the title to be selected. Press ENT of the α-selector [1] to tune in to the selected station.
   * Press the TITLE button [16] twice to quit the TITLE SELECT display.

Audio mute for cellular telephone

The sound of the unit can be muted when the cellular telephone is used.

Setting the phone mute

1) Press the ADJ button [15] to select the CONFIGURATION display.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to "**TEL**".



3) Slide the α-selector [1] to ▶ (right) to select "**ON**" or "**OFF**".
4) Press the ADJ button [15] to return to the previous mode.

Notes:

- *This function is available only when the phone mute lead of the unit is connected to the specified lead of the cellular telephone.*
- *While this function is activated, only the power off and screen open/close are available.*
- *If the power is turned on to the unit while the telephone line is busy, the telephone mute function is activated from the beginning.*

Operating the DSP and Equalizer

Notes:

- *To use the functions described in this section, the DSP (Digital Sound Processor) (DPH9300 or DPH7300, sold separately); or the EQ (Equalizer) EQH5100 must be connected to the tuner amplifier unit. Also, some functions are restricted to certain connection units. Therefore, the model numbers of the units which incorporate each function are indicated in the instructions hereafter.*
- *The functions described in this section are not available when the display is set.*
- *When the DPH9300, DPH7300, or EQH5100 is connected to the tuner amplifier unit, the tone cannot be adjusted as in the regular mode.*

The DSP and EQ can:

- Adjust the listening position (when the DPH9300 or DPH7300 is connected).
- Set the sound setting (when the DPH9300 or DPH7300 is connected).
- Adjust the sound range (when the DPH9300, DPH7300, or EQH5100 is connected).
- Enter titles (when the DPH9300 is connected).

Adjusting the listening position

By adjusting the sound propagation time based on seat position, a natural sound setting can be created.

Notes:

- *This function is available only when the DPH9300/DPH7300, sold separately, is connected.*
- *If the control is idle for about 5 seconds after each operation, the unit returns to the previous mode.*

1) Press the A-M button [13] to change the display to the listening position adjustment mode.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to select the listening position.
   * Each time you slide the α-selector [1], the adjustment position changes as follows:

   The selected position is displayed in white.

   FULL SEAT : Centre of the cabin space
   FRONT-R : Right side of the front seats
   FRONT-L : Left side of the front seats
   FRONT : Centre of the front seats
   REAR : Centre of the rear seat
   POSITION PASS : Usual adjustment
3) Press ENT of the α-selector [1] to select the balance adjustment mode.
4) Slide the α-selector [1] to ▲ (up), ▼ (down), ◀ (left), or ▶ (right) to adjust the balance.
5) Press ENT of the α-selector [1] to enter the adjustment or wait for about 5 seconds.
   The display returns to the listening position adjustment mode.

Changing the DSP characteristics

The DSP creates the surround effect in the cabin space without deteriorating sound quality through digital signal processing.

Selecting the sound setting menu

The sound setting menu can be selected from the provided DSP menu or from the DSP characteristics selected by yourself.

Notes:

- *This function is available only when the DPH9300/DPH7300 is connected.*
- *If the control is idle for about 5 seconds after each operation, the unit returns to the previous mode.*

1) Press the DSP button [13] to select the DSP mode.
2) Press the BAND button [8] to select DSP BASIC or DSP USER.

* When the DPH7300 is connected, only the DSP BASIC menu (same as the DSP BASIC1 for the DPH9300) is displayed.
* Each time you press the BAND button [8], the DSP menu changes in the following order:

DSP BASIC1 → DSP BASIC2 → DSP USER

DSP BASIC1, 2 : Each menu consists of 6 characteristics initially set.
DSP USER : This menu is an adjustment menu to be set by the user (for setting the menu, see the next subsection "Setting your own DSP characteristics").

3) Press one of the Preset buttons [9] (No. 1 to No. 6) and select the DSP menu to be set.

<DSP BASIC1> (for DPH9300/DPH7300)

No.1	HAL(HALL)	Sound setting simulating a large hall
No.2	CHC(CHURCH)	Sound setting simulating a big church with a very high ceiling
No.3	SDM(STADIUM)	Sound setting simulating a large stadium with no fence or ceiling
No.4	LVH(LIVE HOUSE)	Sound setting simulating a live house slightly larger than a jazz club
No.5	DIS(DISCO)	Sound setting simulating a disco where the bass is emphasized
No.6	JAZ(JAZZ CLUB)	Sound setting simulating a jazz club with a low ceiling

<DSP BASIC2> (only for DPH9300)

No.1	DOM(DOME)	Sound setting simulating an indoor sports ground
No.2	CHM(CHAMBER)	Sound setting simulating a grand chamber of a court
No.3	PRK(PARK)	Sound setting simulating a large outdoor field
No.4	THE(THEATER)	Sound setting simulating a movie house or theatre
No.5	STU(STUDIO)	Sound setting simulating a listening room
No.6	BGM(BGM)	Vocal sound is eliminated.

<DSP USER> (only for DPH9300)

No.1	US1(DSP U-1)	Set by the user.
No.2	US2(DSP U-2)	Set by the user.
No.3	US3(DSP U-3)	Set by the user.
No.4	US4(DSP U-4)	Set by the user.
No.5	US5(DSP U-5)	Set by the user.
No.6	US6(DSP U-6)	Set by the user.

Note:

- *Turn on the DSP effect after following instructions in the next subsection, "Turning on and off the DSP effect". Otherwise, the above settings will be invalidated.*

Turning on and off the DSP effect

1) Press the ADJ button [15] and go to the CONFIGURATION mode.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to "**DSP**".
3) Slide the α-selector [1] to ▶ (right) to turn "**OFF**" and "**ON**".
4) Press the ADJ button [15] and return to the previous mode.

Setting your own DSP characteristics

Up to 6 DSP characteristics can be set by the user and stored in the DSP USER (US-1 to US-6).

Notes:

- *This function is available only when the DPH9300 (sold separately) is connected to the source unit.*
- *If the control is idle for about 5 seconds after each operation, the unit returns to the previous mode.*
- *If DSP is turned off in the CONFIGURATION mode, the following instructions cannot be operated.*

1) Press the DSP button [13] to go to the DSP mode.
2) Press the BAND button [8] to select DSP USER.
3) Press the ADJ button [15] when DSP USER is displayed to select the adjustment menu.
4) Press ENT of the α-selector [1] to go to the "DSP EDIT" adjustment mode.
   Adjustment items are displayed as shown on the next page.
   To move the cursor to the next item, slide the α-selector [1] to ▶ (right) and to move it to the previous item, slide the selector to ◀ (left). (If you slide and hold the α-selector [1] to ◀ (left), the adjustment menu returns.) (*1 in the table on the next page)
   Slide the α-selector [1] to ▲ (up) and ▼ (down) to change each set value (*2 in the table on the next page).

Note:

- *The sound setting menu "DSP BASIC1" has already been set in DSP USER.*

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Adjustment items *1	Description*2	Remarks
EFFECT	Slide the α-selector to ▲ (up) or ▼ (down) to set the sound reflection ratio. (0 to 100%)	
INITIAL DELAY	Slide the α-selector to ▲ (up) or ▼ (down) to set the distance from the sound source. (1 ms to 100 ms)	The BGM type pattern*3 in the DSP menu can not be adjusted.
REVERB TIME	Slide the α-selector to ▲ (up) or ▼ (down) to set the reverbration time. (0.3 s to 10.0 s)	Only the reverbration type pattern*4 in the DSP menu can be adjusted.
ROOMSIZE	Slide the α-selector to ▲ (up) or ▼ (down) to set the sound expansion. (0.1 to 1.0)	Only the early reflection type pattern*5 in the DSP menu can be adjusted.
HIGH	Slide the α-selector to ▲ (up) or ▼ (down) to set the reverbration ratio for high frequency sounds. (0.1 to 1.0)	Only the reverbration type pattern*4 in the DSP menu can be adjusted.
LIVENESS	Slide the α-selector to ▲ (up) or ▼ (down) to adjust the echo. (0 to 10)	Only the early reflection type pattern *5 in the DSP menu can be adjusted.

*3: The BGM type pattern indicates "BGM" in BASIC2.

*4: The reverbration type pattern indicates "HALL" and "CHURCH" in BASIC1, and "DOME" and "CHAMBER" in BASIC2.

*5: The early reflection type pattern indicates "STADIUM", "LIVE HOUSE", "DISCO", and "JAZZ CLUB" in BASIC1, and "PARK", "THEATER", and "STUDIO" in BASIC2.

5) After setting the pattern, press and hold one of the preset buttons [9] (No. 1 to No. 6) at which you want to store the pattern.
   * A beep sounds when the pattern is set.
6) Press the DSP button [13] to return to the previous mode.

Setting the auto loudness effect

The auto loudness effect can be turned on and off, or adjusted.

Notes:

- *This function is available only when the DPH9300 (sold separately) is connected to the source unit.*
- *If the control is idle for about 5 seconds after each operation, the unit returns to the previous mode.*

Turning on and off the auto loudness effect

1) Press the DSP button [13] to go to the DSP mode.
2) Press the ADJ button [15] to display the adjustment menu.
3) Slide the α-selector [1] to ▼ (down) to select "A.LD ADJ".
4) Slide the α-selector [1] to ▶ (right) to turn on and off the auto loudness effect.
5) Press the DSP button [13] to return to the previous mode.

Adjusting the sound level of the auto loudness effect

The sound level of the auto loudness effect can be adjusted in 11 levels (0 to 10).

Notes:

- *In order to make the following adjustments, you must turn on the "A.LD ADJ" described in step 3) in the previous subsection.*
- *The adjusted sound level cannot be stored in "USER1 to 6."*

1) Press the DSP button [13] to go to the DSP mode.
2) Press the ADJ button [15] to display the adjustment menu.
3) Slide the α-selector [1] to ▼ (down) to select "A.LD ADJ" and press ENT of the α-selector [1] to go to the auto loudness effect adjustment mode. The adjustment display appears.
4) Slide the α-selector [1] to ▲ (up) or ▼ (down) to select the sound level.
5) Press the DSP button [13] to return to the previous mode.

Modifying the equalizer characteristics

The equalizer selects the appropriate sound features and frequencies for each type of music.

Selecting the equalizer characteristics

You can select the equalizer characteristics from the provided equalizer menu or from the equalizer characteristics which have been selected by the user.

Note:

- *If the control is idle for about 5 seconds after each operation, the unit returns to the previous mode.*

1) Press the EQ button [14] to go to the equalizer mode.
2) Press the BAND button [8] to select EQ BASIC or EQ USER.
   Each time you press the BAND button [8], the EQ BASIC and EQ USER toggles.
   EQ BASIC: This menu consists of the 6 equalizer characteristics initially set.
   EQ USER: The menu containing user-set equalizer characteristics (for setting the characteristics, see the next subsection "Setting and storing the equalizer characteristics". The equalizer No. where no setting is made becomes flat.)
3) Press No. 1 to 6 of the Preset buttons [9] to select the equalizer characteristic to be set.

Button No.	EQ BASIC		EQ USER
No.1	BAS (BASS BOOST)	Bass is emphasized.	US1
No.2	HIG (HIGH BOOST)	Treble is emphasized.	US2
No.3	ACO (ACOUSTICAL)	Mean (human voice) is emphasized.	US3
No.4	IMP(IMPACT)	Bass and treble are emphasized.	US4
No.5	SMO (SMOOTH)	Sound level of each band is smoothed.	US5
No.6	FLA(FLAT)	Original sound (flat equalizing)	US6

Note:

- *Turn on the equalizer effect after following the instructions in the next subsection "Turning on and off the equalizer effect". Otherwise, the above settings will be invalidated.*

Turning on and off the equalizer effect

1) Press the ADJ button [15] to go to the CONFIGURATION mode.
2) Slide the α-selector [1] to ▼ (down) or ▲ (up) to move the cursor to "**EQ**".
3) Slide the α-selector [1] to ▶ (right) to turn "**OFF**" and "**ON**".
4) Press the ADJ button [15] to return to the previous mode.

Setting and storing the equalizer characteristics

You can set your own equalizer characteristics and store them to "EQ USER" (US1 to US6). Up to 6 patterns can be stored.

Notes:

- *This setting cannot be edited when EQ in the CONFIGURATION display is turned off.*
- *If the control is idle for about 5 seconds after each operation, the unit returns to the previous mode.*

1) Press the EQ button [14] to go to the equalizer mode.
2) Press the BAND button [8] to select "EQ USER".
3) Press ENT of the α-selector [1] when the "EQ USER" is displayed.
4) Slide the α-selector [1] to ◀ (left) or ▶ (right) to select the frequency and slide to ▲ (up) or ▼ (down) to adjust the sound level.
   * Repeat the above procedures to set the characteristics.
   * The frequency selection option differs according to the connection unit as follows:

DSP/EQ type	Frequency to be selected	Sound level to be adjusted
DPH9300 DPH7300	30/50Hz, 100Hz, 200Hz, 400Hz, 1kHz, 3kHz, 12kHz	–12dB to +12dB
EQH5100	30Hz, 60Hz, 120Hz, 200Hz	–15dB to +15dB
	400Hz, 1kHz, 3kHz, 8kHz, 12kHz	–12dB to +12dB

5) After setting the characteristics, press and hold one of the Preset buttons [9] (No. 1 to No. 6) where you want to store the setting. A beep sounds when the setting is stored.
6) Press the EQ button [14] to return to the previous mode.

Other equalizer settings

Basic settings

The following items can be set for the equalizer.

- **No. of sub woofers**: STEREO/MONO/OFF
  (SUB WOOFER: when sub woofers are connected)
- **Lowest frequency**: 30 Hz/50 Hz
  (EQ MINFREQ: when the DPH9300 or DPH7300 is connected)
- **Parametric equalizer adjustment**: FRONT/REAR /OFF
  (P. EQ: when the DPH9300 is connected)
- **Turning on and off the surround effect**: ON/OFF
  (SURROUND: when the EQH5100 is connected)

English
Owner's manual

Note:

- *If the control is idle for about 5 seconds after each operation, the unit returns to the previous mode.*

1) Press the EQ button [14] to go to the equalizer mode.
2) Press the ADJ button [15] to display the setting menu.
3) Slide the α-selector [1] to ▲ (up) and ▼ (down) to select the item and slide the α-selector [1] to ▶ (right) to change the setting.
   The following items can be set.
   - **SUB WOOFER**: STEREO/MONO/OFF
     Switches the settings according to the no. of speakers.
   - **EQ MINFREQ**: 30/50
     Sets the lowest frequency.
   - **P. EQ**: FRONT/REAR/OFF
     Switches the front and rear.
   - **SURROUND**: ON/OFF
     Turns on and off the surround effect.

   When setting the item SUB WOOFER or P. EQ in "**PUSH ENT**", if you press ENT of the α-selector [1], the adjustment mode is set. For information about the adjustment mode of each item, see the next subsection "Setting in the adjustment mode".
4) After completing the setting, press the EQ button [14] to return to the previous mode.

Setting in the adjustment mode

Note:

- *When the sub woofer or parametric equalizer is turned off, it cannot be adjusted.*

Select an item to be adjusted following step 3) in the previous subsection "Basic settings" and press ENT of the α-selector [1]. The setting mode is displayed and each adjustment window is displayed.
Slide or press the α-selector [1] following the instruction on the display and make setting.

Adjusting the sub woofer

Volume or filter of the sub woofer is set.
Items shown in the table below can be set.

Items*1	Description
WOOFER VOL	Slide the α-selector [1] to ▲ (up) or ▼ (down) to adjust the volume of the woofer. (0 to 4)
LPF	Slide the α-selector [1] to ▲ (up) or ▼ (down) to set the frequency of the low pass filter. (50 Hz ↔ 80 Hz ↔ 120 Hz)
LPF SLOP*2	Slide the α-selector [1] to ▲ (up) or ▼ (down) to set the slope of low pass filter. (12 dB/oct ↔ 18 dB/oct ↔ 24 dB/oct)
HPF	Slide the α-selector [1] to ▲ (up) or ▼ (down) to set the frequency of the high pass filter. (Through ↔ 50 Hz ↔ 80 Hz ↔ 120 Hz)
HPF SLOP*2	Slide the α-selector [1] to ▲ (up) or ▼ (down) to set the slope of high pass filter. (12 dB/oct ↔ 18 dB/oct ↔ 24 dB/oct)
TEST TONE*3	Slide the α-selector [1] to ▲ (up) or ▼ (down) to check the wiring of the speakers. (OFF ↔ FRONT-L ↔ FRONT-R ↔ REAR-L ↔ REAR-R ↔ WOOFER-L ↔ WOOFER-R ↔ ALL ch)

*1: To move the cursor to the next item, slide the α-selector [1] to ▶ (right), and to the previous item, slide the button to ◀ (left). (If you slide and hold the α-selector [1] to ◀ (left), the adjustment menu returns.)

*2: The LPF SLOPE and the HPF SLOPE can be adjusted when the DPH9300 is connected.

*3: The TEST TONE can be adjusted when the DPH9300/DPH7300 is connected.

Note:

- *The setting for the sub woofers cannot be preset in "USER1 to 6".*

Adjusting the parametric equalizer

Frequency characteristic in the cabin space can be adjusted.
The items shown in the table below can be adjusted.

- Press ENT of the α-selector [1] to output the TEST TONE (PINK NOISE) in the following order.

FRONT → REAR → ALL → OFF

- The preset selection display appears first.

Note:

- *The settings made for the parametric equalizer cannot be preset in "USER1 to 6".*

Items*1	Description
FRONT *2 PRESET	Slide the α-selector [1] to ▲ (up) or ▼ (down) to select one out of 6 parameters according to the vehicle type. (TYPE1 to TYPE6)
REAR *2 PRESET	Slide the α-selector [1] to ▲ (up) or ▼ (down) to select one out of 7 parameters according to the vehicle type. (TYPE1 to TYPE7)
BAND	Slide the α-selector [1] to ▲ (up) or ▼ (down) to select the band to be adjusted. Select 1 and 2 to adjust the bass, and 3 and 4 to adjust the treble and mean. (1 to 4)
FREQUENCY	Slide the α-selector [1] to ▲ (up) or ▼ (down) to select the range of the frequency to be adjusted. (Set BAND1 and 2 to select the frequency range between 20 Hz and 500 Hz, or set BAND3 and 4 to select the range between 630 Hz and 20 kHz.)
GAIN	Slide the α-selector [1] to ▲ (up) or ▼ (down) to adjust the sound level. (–12 dB to +12 dB)
Q (Frequency curve)	Slide the α-selector [1] to ▲ (up) or ▼ (down) to select the magnitude of vibration. (1, 3, 5, 7, 20)

*1: To move the cursor to the next item, slide the α-selector [1] to ▶ (right), and to the previous item, slide the button to ◀ (left). (If you slide and hold the α-selector [1] to ◀ (left), the adjustment menu returns.)

*2: Select "REAR" or "FRONT" of "P. EQ" in the EQ ADJ display beforehand.

Turning on and off the surround effect

Slide the α-selector [1] to ▶ (right) to turn on and off the surround effect.

Titling the DSP and equalizer menu

Note:

- *This function is available only when the DPH9300 (sold separately) is connected.*

1) Press the DSP button [13] or the EQ button [14], whichever you want to title.
2) Press the BAND button [8] and one of the Preset buttons [9] (No. 1 to No. 6) to select a user No. to be titled.
3) Press the TITLE button [16] when the menu is displayed to go to the title input display.

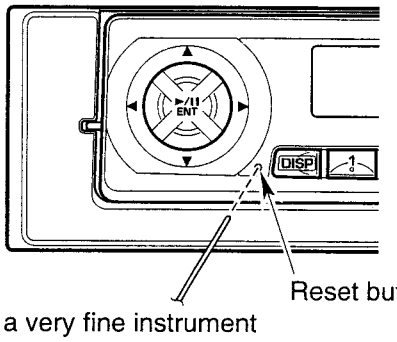
   To enter a title, see the subsection "Titling" (page 32).

   * Press the TITLE button [16] to cancel the titling.

Note:

- *Up to 11 characters can be entered in one title.*

10. IN CASE OF DIFFICULTY

Symptom	Cause	Measure
Power does not switch on. (There is no sound produced.)	The fuse has blown.	Replace the fuse with one of the same rating (10 A for this unit). If the fuse blows again, contact the store where you purchased the unit.
	Wiring is incomplete.	See "Installation and Wire connection manual (especially, Section 8. Wire connections)" of this manual and connect properly.
Nothing happens when buttons are pressed, or the display is not accurate.	Noise, etc., is causing the microprocessor to malfunction.	Press the reset button with the tip of a very fine instrument for about 2 seconds. 
DSP/EQ does not operate.	The switch of the tuner unit is set to "N".	Turn off the ignition switch once and set the switch to "D".
Picture does not appear.	Parking brake is not applied.	Check that the parking brake is fully applied.
Picture has shadow or shadows.	Signal condition is poor.	This may be due to signals reflected off mountains or buildings. Check again in a different place and direction.
LCD panel is not drawn in when it is set to the horizontal position.	Foreign object at back of tray	Eject the compact disc and then insert another one.
Screen is dark.	Brightness is adjusted too low.	Check that the brightness is properly adjusted in the CONFIGURATION mode and set it properly.
	Usage conditions are poor.	This may happen if the temperature in the car is below 0°C or above 60°C. Check again when the temperature is between 0 and 60°C.

Symptom	Cause	Measure
Colors are pale or hue is poor.	COLOR (tone of color) and HUE are not adjusted appropriately.	Select the CONFIGURATION display and adjust the color and hue density using the COLOR and HUE controls.
Picture doubles or triples.	Signal condition is poor.	This may be due to signals reflected off mountains or buildings. Check again in a different place and direction.
Spots or stripes on picture	Interference signals	This may be caused by interference from other cars, trains, high voltage lines, neon lights, etc. Check again in another place.
The compact disc does not enter.	There is already a compact disc inside the disc insertion slot.	Eject the compact disc and then insert another one.
The compact disc soon comes out again.	The compact disc has been inserted upside down.	Insert the compact disc with the labeled side facing up.
Sound skipping noise and other noise are heard.	The compact disc is dirty.	Wipe the compact disc with a soft cloth.
	The compact disc is severely scratched or warped.	Replace the compact disc with one that is in good condition.
The sound is poor immediately after switching on the power.	When the car is parked in a humid place, dew might form on the internal lens.	Turn the unit on and wait for about 1 hour before operating.
When the VTR is connected, the display image is deformed.	NTSC/PAL setting is wrong.	Set NTSC or PAL in the CONFIGURATION display according to your VTR.

11. ERROR DISPLAYS

■ **If an error occurs, the type of error is displayed.**
Take the measures described below to eliminate the problem.

Error display	Name of error	Description
ERROR 1	Memory error	This error occurs if the disc loading data, etc., is lost due to wear of the CD/MD changer's battery. (Remove all the discs from the magazine, insert the empty magazine and press the eject key to return to the first disc (only CD).)
ERROR 2	Mechanical error	This error occurs if there is a problem with the mechanism and the eject or disc (CD/MD) selection operation is not completed in the specified amount of time. (Consult the nearest Clarion service shop or customer clinic.)
ERROR 3	Functional error	This error occurs if the pickup cannot focus after several tries due to scratches on the disc (CD/MD), signal interference, etc. (Replace the disc (CD/MD).)
ERROR 6	Disc error	This error occurs when the disc (CD/MD) is loaded upside-down. (Reload the disc (CD/MD) properly.)
TEMP ERROR	Temperature error	This error occurs when the CD/MD mechanism's temperature sensor detects that the temperature is too high. (When the temperature returns to normal, playback starts.)

12. SPECIFICATIONS

FM (UKW) Tuner

Frequency range:
87.5 MHz to 108 MHz (0.05 MHz steps)
Usable sensitivity: 12 dBf (new IHF)
50 dB quieting sensitivity: 18 dBf (new IHF)
Signal-to-noise ratio: (IHF·A) 70 dB
Frequency response: 30 to 15 kHz ±3 dB
Stereo separation: 35 dB (1 kHz, 60 dBf)

AM Tuner

Frequency range:
MW; 531 kHz to 1602 kHz (9 kHz steps)
LW ; 153 kHz to 279 kHz (3 kHz steps)
Usable sensitivity: 28 dB (μV)
Signal-to-noise ratio: 50 dB (monaural)

TV Tuner

Reception channels:
VHF; CCIR 2 to 12 ch
CCIR "L" L5 to L12 ch
(When the receiving country is set to France)
UHF; CCIR 21 to 69 ch
Maximum sensitivity:
VHF; 35 dB (μV) or less
UHF; 40 dB (μV) or less

Audio Amplifier

Rated power output:
14 W × 4 (20 Hz to 20 kHz, 1%, 4 Ω)
Maximum power output: 30 W × 4 (EIAJ)
Speaker impedance: 4 Ω (4 to 8 Ω)

Input/Output

Video input:
1.0±0.2 Vp-p (input impedance 75 Ω)
VTR video input; 3.5 ϕ mini-jack
Audio input:
130±60 mVrms (input impedance 10 kΩ or greater)
VTR audio input; 3.5 ϕ mini-jack
Video output:
1.0±0.2 Vp-p (output impedance 75 Ω)
RGB input:
Video; 0.7 V±0.2 Vp-p (input impedance 75 Ω)
Synchronize; 0.3 V $^{+0.9}_{-0.1}$ Vp-p (input impedance 75 Ω)

LCD Monitor

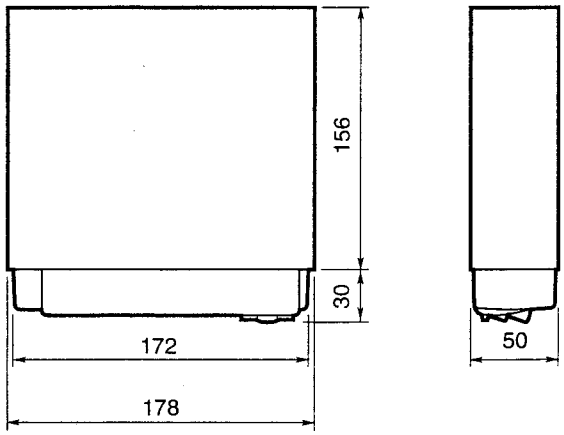
Screen size:
5-inch (102 mm Width × 74 mm Height)
Display method:
Transmission type TN liquid crystal display
Drive method:
TFT (thin–film transistor) active matrix driving
Pixels: 224640 (960 × 234)

General

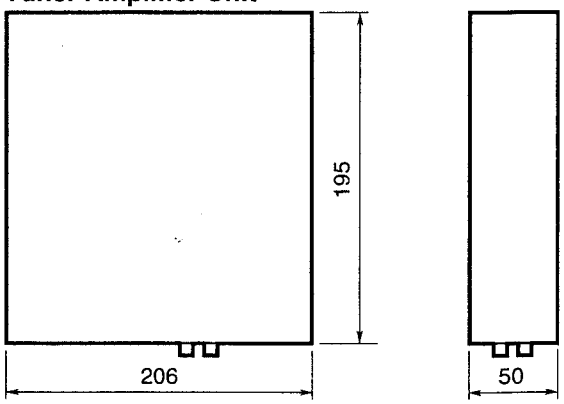
Power source voltage: 14.4 V DC
Ground: Negative
Current consumption: 4.0 A (1 W)
Dimensions (source unit):
178 mm Width × 50 mm Height × 156 mm Depth
Dimensions (tuner amplifier unit):
206 mm Width × 50 mm Height × 195 mm Depth
Weight (source unit): 1.5 kg
Weight (tuner amplifier unit): 1.3 kg

Unit : mm

Source Unit



Tuner Amplifier Unit



Notes:

- *Specifications comply with EIAJ Standards.*
- *Specifications and design are subject to change without notice for further improvement.*

Memo

Clarion

VRX847OR

Installation and Wire connection manual

English

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1. BEFORE STARTING

1. This set is exclusively for use in cars with a negative ground 12 V power supply.
2. Read these instructions carefully.
3. Be sure to disconnect the battery "⊖" terminal before starting. This is to prevent short circuits during installation. (Figure 1)

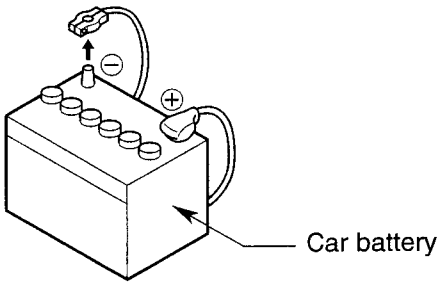


Figure 1

2. PACKAGE CONTENTS

① **Source unit**
② **Tuner amplifier unit**
③ **Manuals**
Owner's manual & Installation manual
Warranty card
④ **Connection lead** (20-pin DIN lead)
(for the source unit and the tuner amplifier unit)
⑤ **Connection lead** (13-pin C-BUS cable)
(for the source unit and the tuner amplifier unit)
⑥ **Antenna extension lead**
⑦ **Power supply lead**
(for the tuner amplifier unit)
⑧ **Parking sensor extension lead**
(orange)
⑨ **Extension lead for rear vision camera**
(white/red)
⑩ **Bag for accessories of the source unit** (No. 1)
Flat head screw (M5 × 8) 4
Sems hexagonal bolt (M5 × 8) 5
⑪ **Bag for accessories of the source unit** (No. 2)
Hook plate 2
Cord clamp
Spacer
Special screw
⑫ **Bag for accessories of the tuner amplifier unit**
Mounting bracket 2
Clip 4
Mounting screw (M4 × 8) 4
⑬ **Universal mounting bracket**
⑭ **Remote control unit**
⑮ **Battery** (for remote control unit)

3. GENERAL CAUTIONS

1. Do not open the case. There are no user serviceable parts inside. If you drop anything into the unit during installation, consult your dealer or an authorized CLARION service centre.
2. Use a soft, dry cloth to clean the case. Never use a rough cloth, thinner, benzine, or alcohol, etc. For tough dirt, apply a little cold or warm water to a soft cloth and wipe off the dirt gently.

4. CAUTIONS ON INSTALLATION

1. Prepare all articles necessary for installing the source unit before starting.
2. This model is used with the LCD panel slid forwards (shell loading system). On some types of cars, the LCD panel may touch the dashboard or shift lever, in which case it cannot be installed. Check that the set will not hamper operation of the shift lever before choosing the place of installation.(Figure 2)

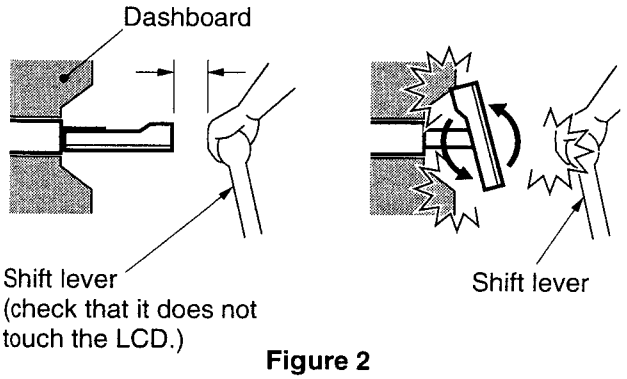


Figure 2

3. Install the unit within 30° of the horizontal plane. (Figure 3)

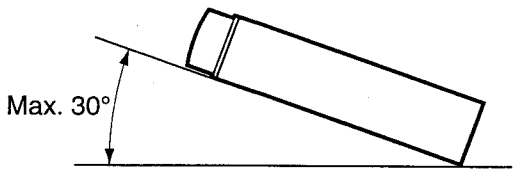


Figure 3

4. If you have to do any work on the car body, such as drilling holes, consult your car dealer beforehand.
5. Use the enclosed screws for installation. Using other screws can cause damage. (Figure 4)

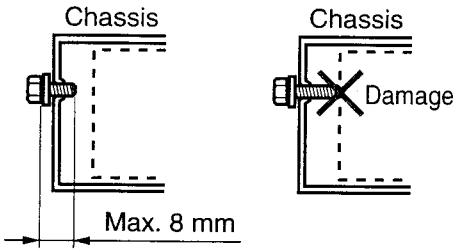


Figure 4

6. The source unit has mounting screw holes for NISSAN (N marks) and TOYOTA (T marks) vehicles, and for Clarion installation kit (C marks).

   When you use a mounting kit sold separately, affix the screws to the ● marks above according to the type of the vehicle. (Figure 5)

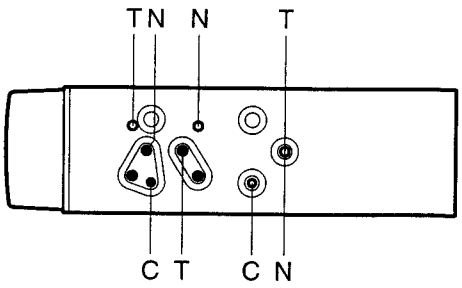


Figure 5

5. INSTALLING THE SOURCE UNIT

■ Universal Mount

1. Place the universal mounting bracket into the instrument panel, use a screwdriver to bend each stopper of the universal mounting bracket inward, then secure the stopper as shown in Figure 6.
2. Wire as shown in Section 8.
3. Insert the source unit into the universal mounting bracket until it locks.
4. Mount the outer escutcheon so that all the hooks are locked.

Notes:

1) Some car models require special mounting kits for proper installation. Consult your Clarion dealer for details.

2) Fasten the front stopper securely to prevent the source unit from coming loose.

• Console opening dimensions

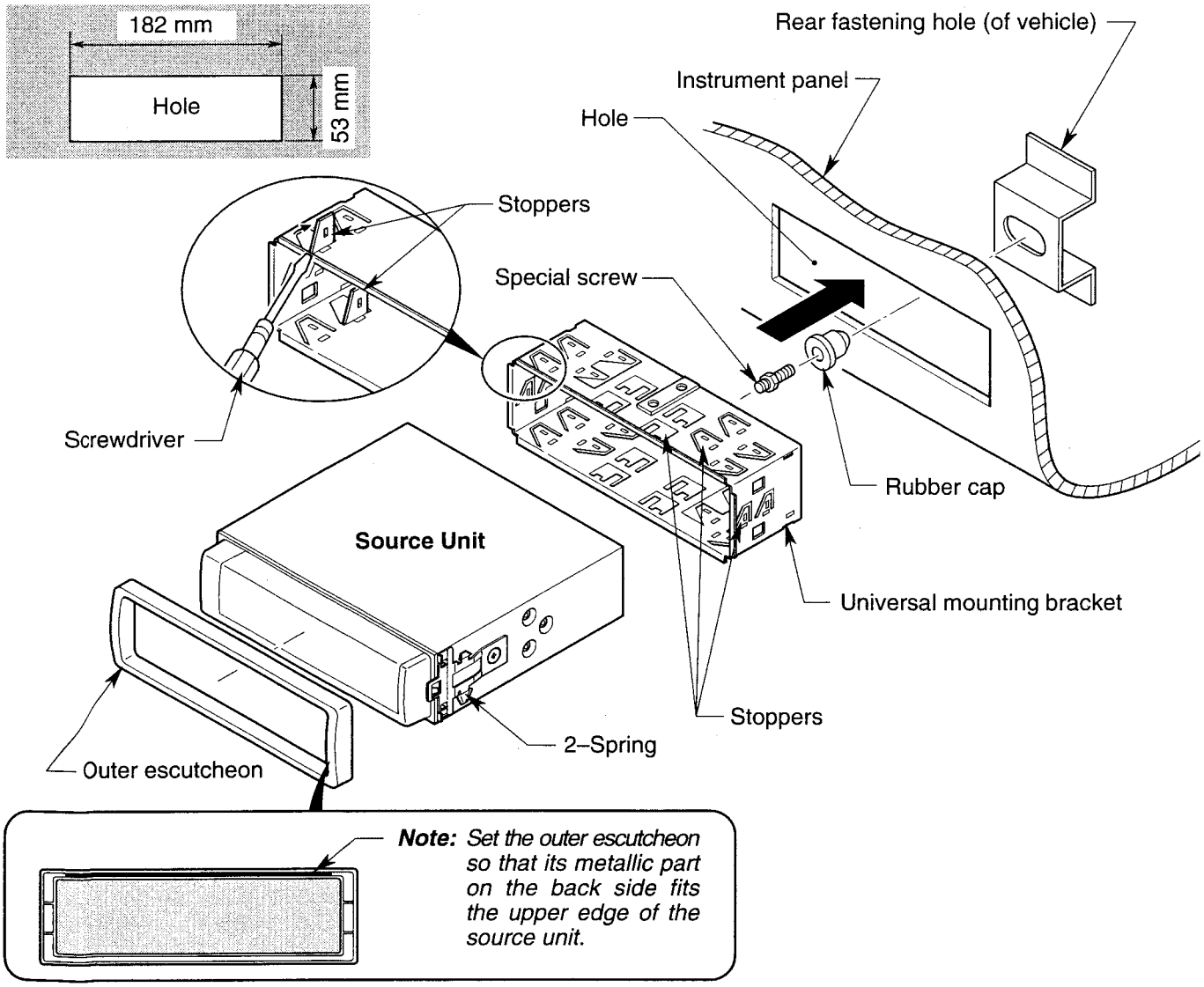


Figure 6

■ Fixed Mount (TOYOTA, NISSAN and other ISO/DIN equipped vehicles)

This unit is designed for fixed installation in the dashboard.

If the vehicle is equipped with a factory-installed radio, install the source unit with the parts and screws marked (*). (Figure 8)
If the vehicle is not equipped with a factory-installed radio, obtain an installation kit to install the source unit in the following procedure.

1. Remove the screws from both side of the source unit. Then, at either side, lift the leaf spring until the engaging claws are released from the holes, and slide the spring to the direction of arrow to remove it. Repeat the same for the other side to remove the springs from the both sides. (Figure 7)
2. Secure the mounting brackets to the chassis as shown in Figure 8. Holes are pre-tapped for TOYOTA and NISSAN vehicles; modification, such as drilling new holes, of the mounting brackets may be required for other models.
3. Wire as shown in Section 8.
4. Secure the unit in the dashboard, and then reassemble the dashboard and the centre panel.

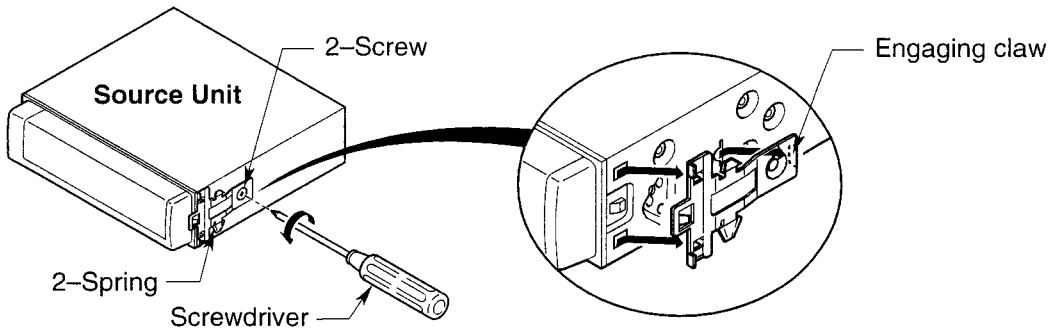
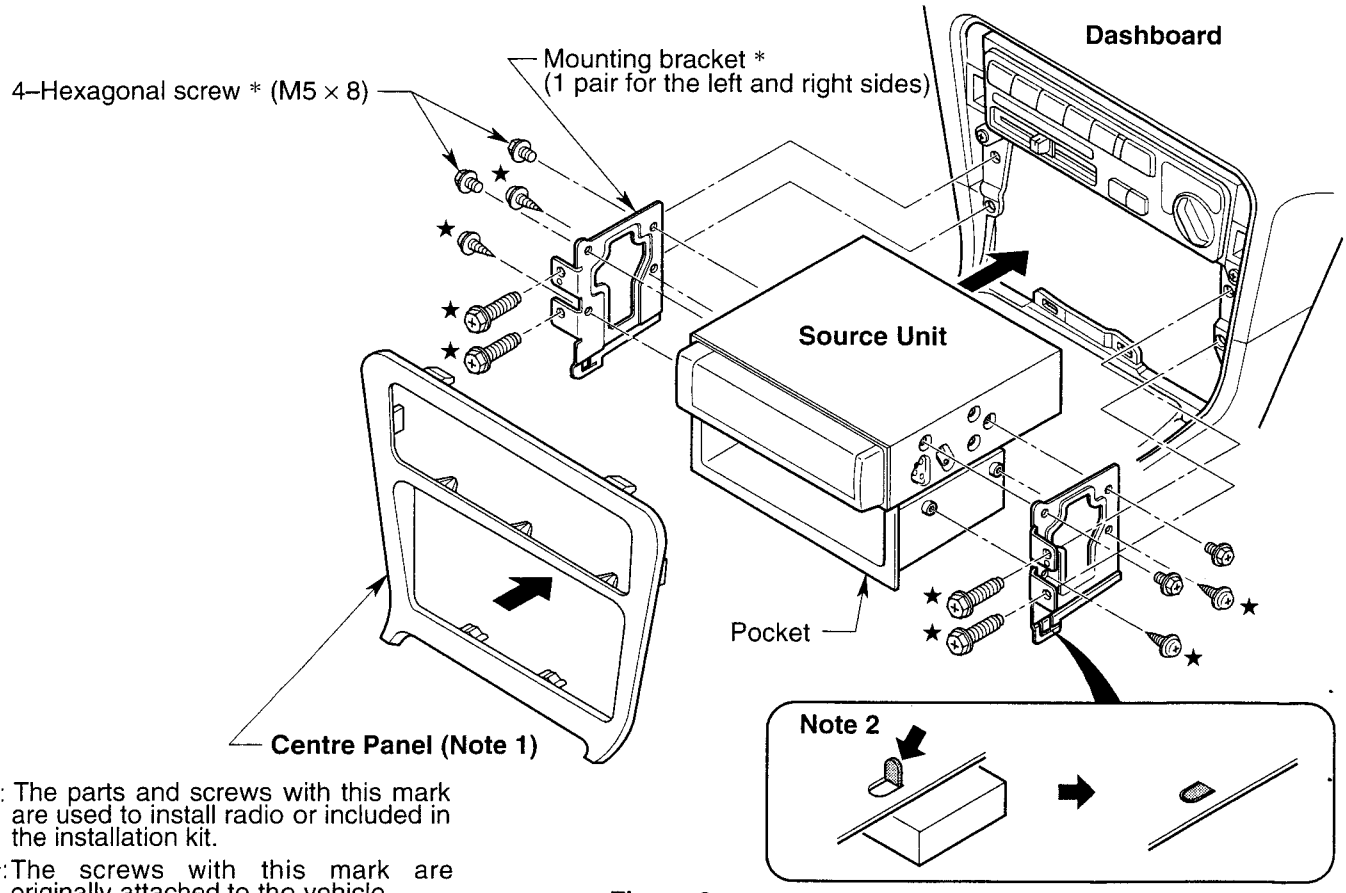


Figure 7



*: The parts and screws with this mark are used to install radio or included in the installation kit.

★: The screws with this mark are originally attached to the vehicle.

Figure 8

Note 1: *In some cases, the centre panel may require some modification (trimming, filling, etc.).*

Note 2: *If a hook on the installation bracket interferes with the unit, bend and flatten it with a nipper or a similar tool.*

■ Installing the Tuner Amplifier Unit

Before installing the tuner amplifier unit, position it considering safety and operability of the entire system.

Sample installation (when the unit is installed under the front seats)

Install the unit under the front seats using the included parts. If there are not enough space under the seats, consult the store where you purchased the unit.

1. Attach the mounting brackets on the left and right side of the tuner amplifier unit using the attached screws (M4 × 8). (Figure 9)
2. Position the tuner amplifier unit on the floor carpet and drill holes through the carpet at the position where the holes of the bracket fit.
3. Push the attached clips through the holes on the carpet into the bracket holes.

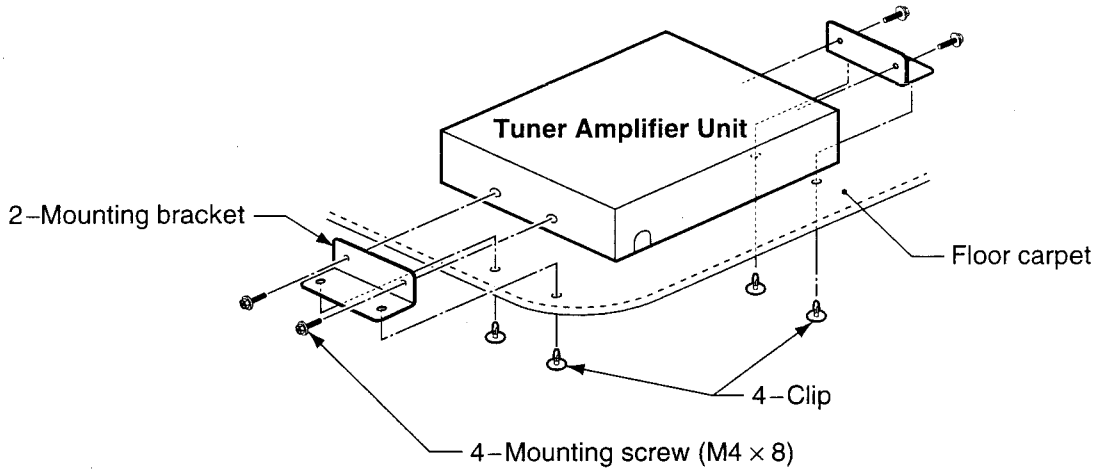


Figure 9

6. REMOVING THE SOURCE UNIT

1. When the rear of the source unit has been secured with the method shown in Figure 6 unfasten the special screw.
2. Remove the outer escutcheon.
3. Insert the hook plate between the spring and the universal mounting bracket, fit tab Ⓑ of the spring into hole Ⓐ of the hook plate, then pull the source unit out by the hook plate. (Insert both the right and left edges of the hook plate.) (Figure 10)

Note: *Keep the hook plate. You cannot remove the source unit without disengaging the hook plate.*

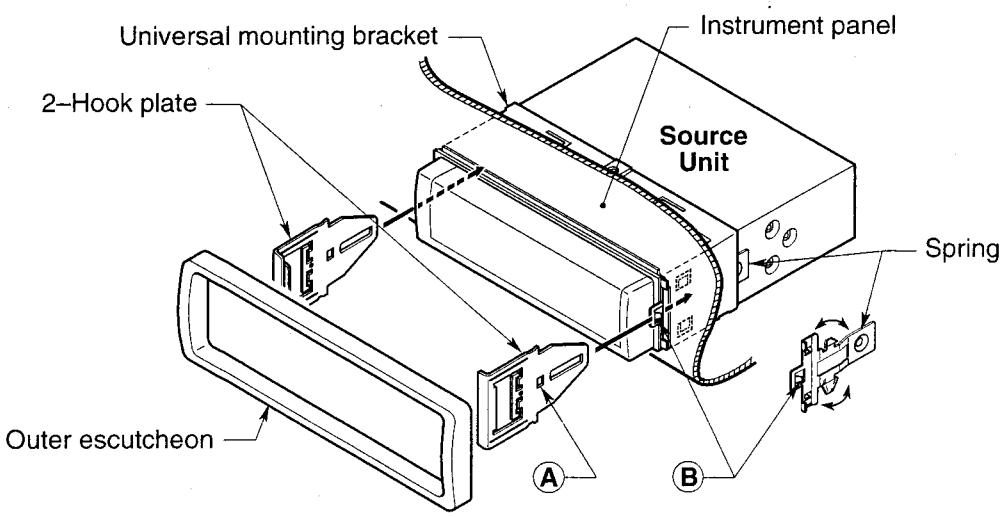
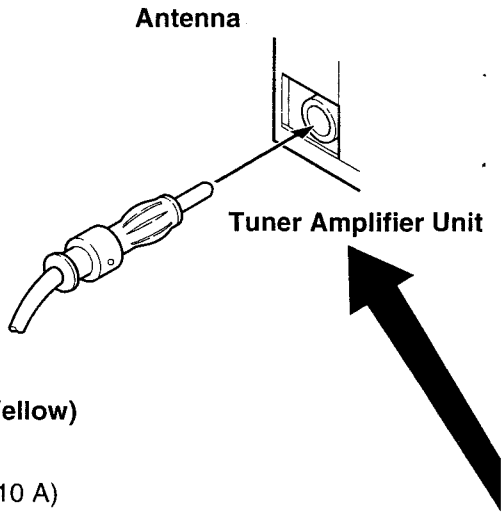


Figure 10

7. CAUTIONS ON WIRING

1. Be sure to turn the power off before wiring.
2. Be particularly careful where you route the wires. Keep them well away from the engine, and exhaust pipe, etc. Heat may damage the wires.
3. If the fuse should blow, check to see if the wiring is correct. If it is, replace the fuse with a new one with the same amperage rating as the original.
4. To replace the fuse, release the catch on the source unit side, remove the old fuse and insert the new one. (Figure 11)

   Note: *There are various types of fuse holder. Do not let the battery side and touch other metal parts.*



Example 1: Main power supply (Yellow)

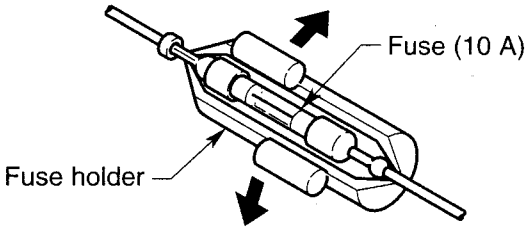


Figure 11

!

After the connection, fix the lead by a clamp or insulation tape for protection.

5. When connecting the ground lead, fasten the ground lead (black) securely to a clean metal plate on the car. (Figure 12)

   If the set is insufficiently grounded, it may not operate or there may be noise.

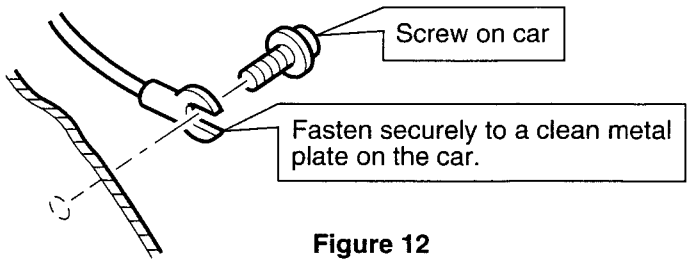
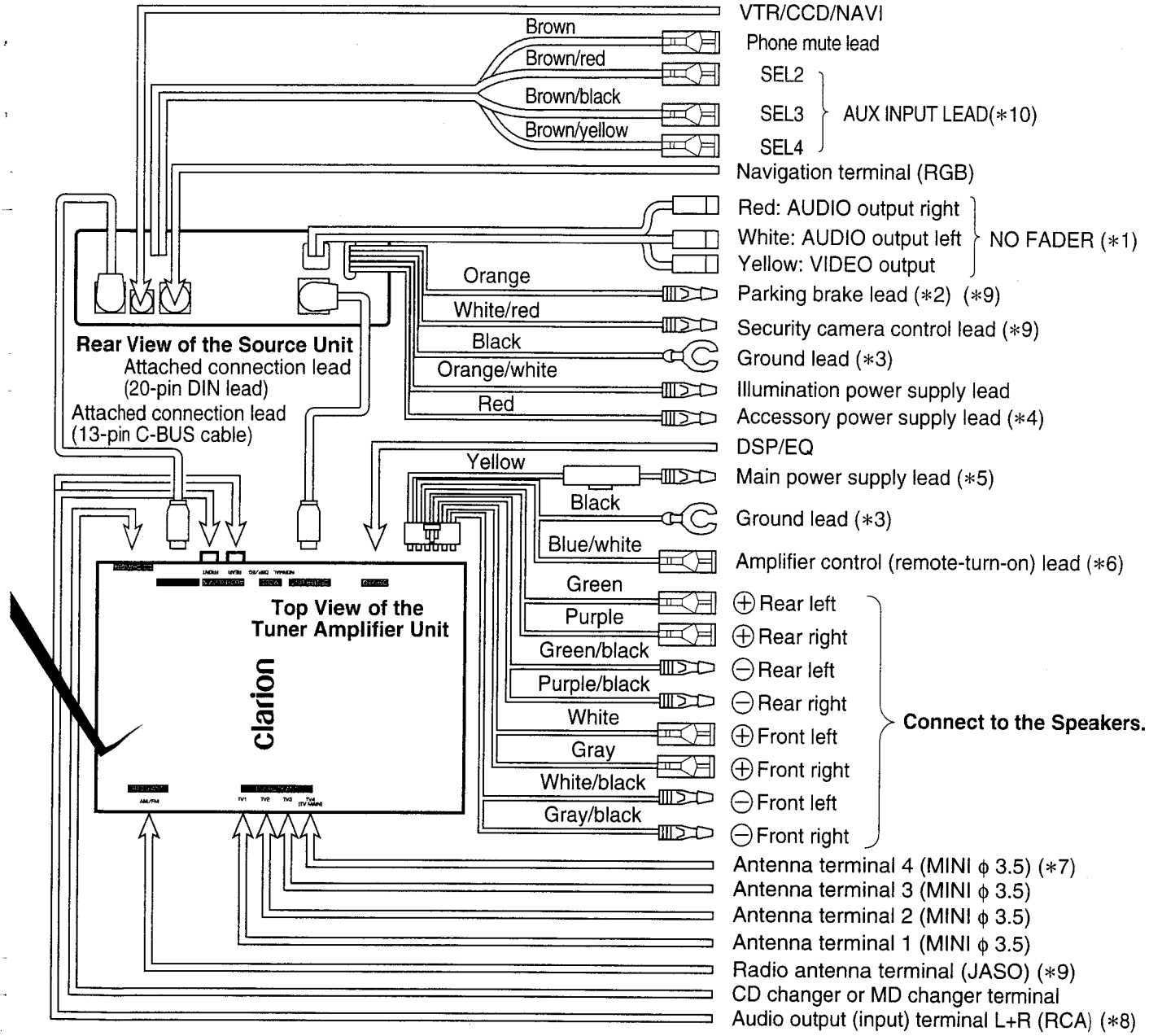


Figure 12

8. WIRE CONNECTIONS



*1: Fader cannot be adjusted with these outputs. Connect them to an amplifier (sold separately), etc.

*2: Connect to the ground lead of the parking brake lamp in the instrument panel.

*3: Connect securely to the metal part of the vehicle with a screw, etc.

*4: Connect to the power supply terminal which can be turned on and off by the ignition switch.

*5: Connect to the power supply terminal where the power is always supplied regardless of whether the ignition switch is turned on or off.

*6: Connect to the remote turn-on lead of amplifiers.

*7: Connect the antenna for TV (MINI f 3.5). When the TV diversity is turned off, connect the TV antenna. When the receiving country is set to France, connect the antenna to this terminal.

*8: Connect this lead to an external amplifier or Clarion expand DSP/EQ (sold separately), etc. using the RCA lead (L, R) (sold separately).

*9: Use the attached extension lead when necessary.

*10: Provided only to a Clarion service technician.

■ Connecting the Accessories

• Connection to the external amplifier

The external amplifier can be connected to the audio output terminal (RCA terminal) (red, white) on the side of the tuner amplifier unit and the source unit.

• Connection to the monitor for rear seat

The monitor for rear seat can be connected to the VIDEO output terminal (yellow) on the rear of the source unit. In this case, install the monitor in a location where it will not come into the driver's range of vision.

• Connecting a VTR component with incorporated camera

VTR playback is available by connecting a VTR component with incorporated camera to the VTR input terminal on the front panel of the source unit. Use a separately sold converter lead. Switch the band to "VTR" when watching videos.

• Connection to the security camera for vehicle

The rear vision camera for vehicle can be connected to the system expansion terminal on the source unit.
For details, refer to the instruction sheet or manual for the rear vision camera.

***Note**: A power supply box (sold separately) is required for connection of the source unit and the security camera.*

• Connection of the VTR to the expansion terminal

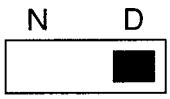
Use the signal conversion lead (sold separately) for the connection.

• Connection to the DSP or equalizer

The Clarion DSP or equalizer, DPH9300 or EQH5100, (sold separately) can be connected to the connection terminal for the tuner amplifier unit and the audio terminal (RCA terminal) (red, white).

For details, refer to the instruction manual for the DSP or equalizer.

***Note**: When connecting the DSP or equalizer, the switch (Normal/DSP equalizer) on the attached tuner amplifier unit should be set to "D".*



• Connection to car navigation equipment

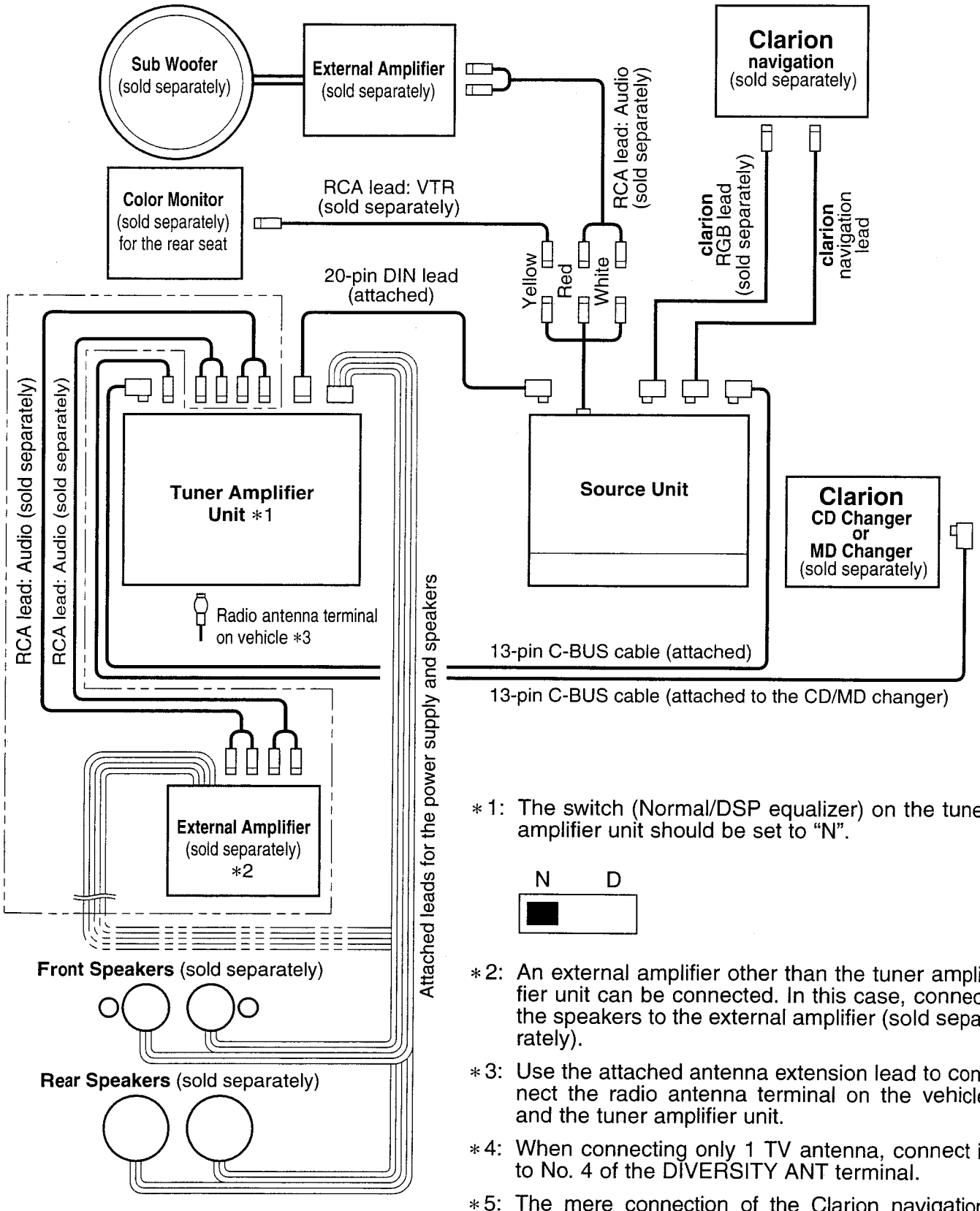
When Clarion car navigation equipment is used, connect it to the system expansion terminal (VTR/CCD/NAVI) of the source unit. For detailed information, refer to the operating instructions provided with car navigation equipment.

• If the specified lead of the cellular telephone is connected to the phone mute lead of the source unit, the audio mute is available when the cellular telephone is used.

For audio mute setting in cellular telephone use, see page 33.

9. SAMPLE SYSTEMS

■ Sample System 1



*1: The switch (Normal/DSP equalizer) on the tuner amplifier unit should be set to "N".

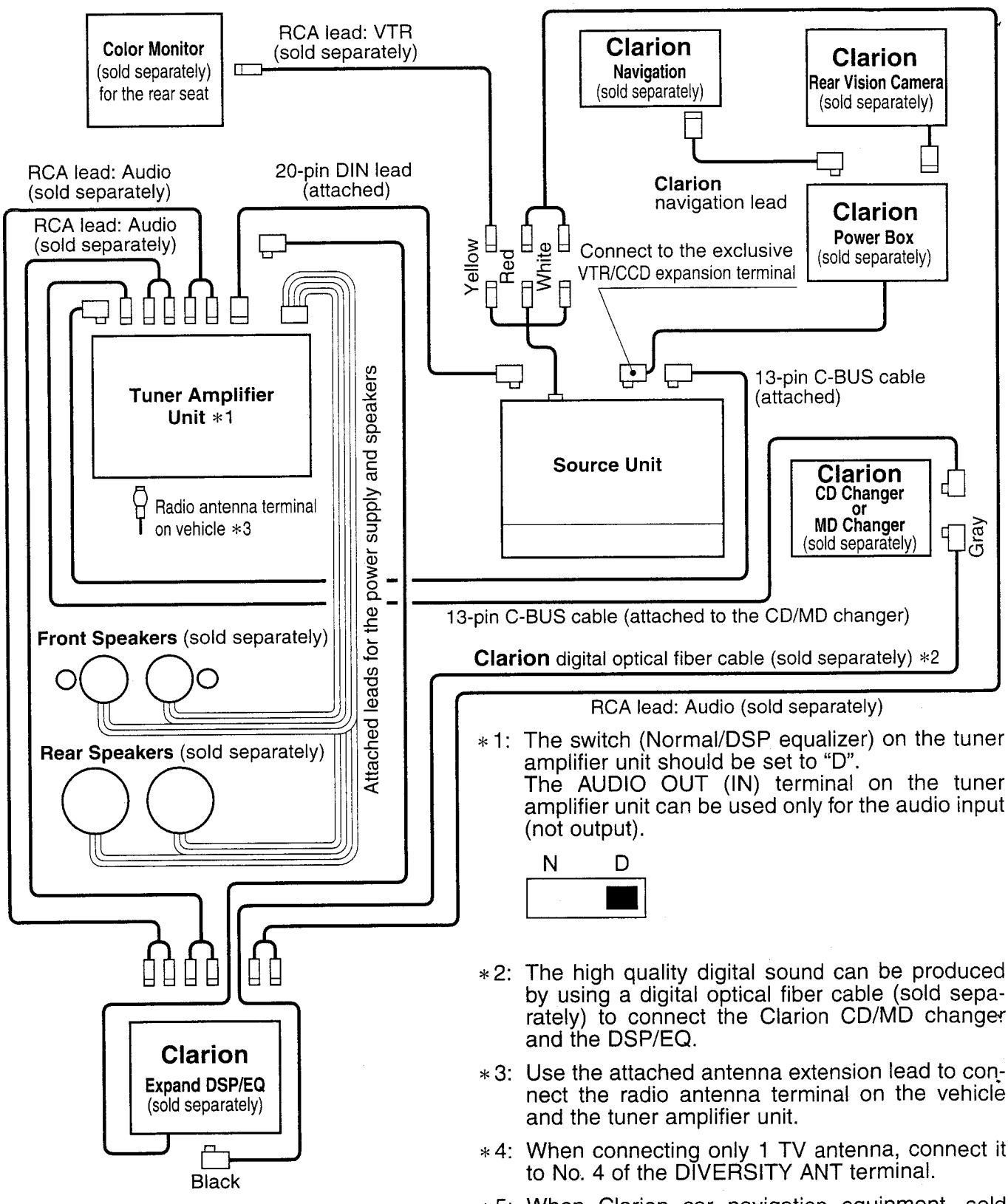
*2: An external amplifier other than the tuner amplifier unit can be connected. In this case, connect the speakers to the external amplifier (sold separately).

*3: Use the attached antenna extension lead to connect the radio antenna terminal on the vehicle and the tuner amplifier unit.

*4: When connecting only 1 TV antenna, connect it to No. 4 of the DIVERSITY ANT terminal.

*5: The mere connection of the Clarion navigation lead, sold separately, allows you to use navigation. If you connect the RGB lead, sold separately, you can enjoy navigation of much better quality.

■ Sample System 2 (DSP or Equalizer is connected)



*1: The switch (Normal/DSP equalizer) on the tuner amplifier unit should be set to "D".
The AUDIO OUT (IN) terminal on the tuner amplifier unit can be used only for the audio input (not output).

*2: The high quality digital sound can be produced by using a digital optical fiber cable (sold separately) to connect the Clarion CD/MD changer and the DSP/EQ.

*3: Use the attached antenna extension lead to connect the radio antenna terminal on the vehicle and the tuner amplifier unit.

*4: When connecting only 1 TV antenna, connect it to No. 4 of the DIVERSITY ANT terminal.

*5: When Clarion car navigation equipment, sold separately, and the Clarion security camera, sold separately, are connected at the same time, connect the navigation lead to the Clarion power box, sold separately. (The RGB lead, sold separately, is not used.)